



Big History and Great Transition

GTI Forum

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What does the longest arc of history tell us about our global moment? In his opening essay, David Christian explores how the Big History framework illuminates where we are and clarifies what we must do. Panel 1 affirms and expands the framework; Panel 2 raises questions about its utility for a Great Transition.

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New Ways of Seeing the World: Big History and Great Transition

David Christian

As the first astronauts peered down on Earth from space, they saw the planet anew. They all had the same epiphany, as the sight of one small, fragile world, embedded in a huge universe briefly replaced the multiple, ever-changing impressions of everyday life. To build a better future, we will all need a new and more capacious perspective on our world, because the cracked and myopic perspectives of so much modern thought and debate have stymied action by hiding the colossal scale of change and discouraging global collaboration.

Fortunately, wider and more integrated ways of perceiving today's world are working their way into modern scholarly thinking, such as the "Big History" framework, with which I am associated.¹ Our challenge today is to normalize more expansive ways of seeing and thinking that can offer the guidance, motivation, and hope needed to unite humans behind the colossal project of the Great Transition.

The global gestalt shift in thinking, education, and public discourse is already under way, and that augurs well for the future. Indeed, changing how people see the world may prove easier than changing our material technologies or the social and economic structures within which we live. But new ways of seeing and thinking will be just as important, because without the guidance and inspiration they can provide, our species will keep repeating old mistakes as it drifts aimlessly towards catastrophe.

Why We Need New Thinking

Though it is hard to see from close up, a new world has emerged from the chrysalis of the old, a world in which one species, *Homo sapiens*, now dominates change on an entire planet. Crucial thresholds were crossed during my lifetime, as human impacts on the biosphere multiplied so

fast that we began to ruin the habitats of millions of our fellow species and destabilize planetary systems such as the oceans and climate. At stake now is not just the fate of particular communities or nations, but the fate of humanity as a whole, and of the many other life forms with which we share biological kinship and a common home. What we humans do in coming decades will shape the future for thousands, perhaps millions, of years. That is why many scholars argue that we have entered a new geological epoch: the Anthropocene.

The close-up lenses that dominate modern scholarship, education, and debate are far too narrow to let us see such vast changes, and a blinkered vision has constrained effective action. We are like ants on a charging elephant, confused by the jolts and tremors shaking our world, because the limited views of discrete disciplines and competing loyalties let us see only what is right in front of us. Take any conventional high school or university history course. It will be dominated by recent centuries, and by the stories of particular regions or cultures or nation-states. It can teach much about particular communities and identities, but the lens is far too small to let us see the larger historical trajectories that led to the Anthropocene. And to *fully* understand our impact on the biosphere, we need an even wider lens, one that can embrace the history of Planet Earth and of life on Earth over several billion years. Yet few of us acquire more than a fragmented, lop-sided, and compartmentalized understanding of planetary history.

A splintered understanding of our world mattered less a century ago, when the main challenges people faced were still regional and local. But today, such thinking can no longer provide the vision, the guidance, or the motivation needed to cope with challenges that cannot be tackled nation by nation or understood discipline by discipline. To understand the global challenges of the Great Transition, we need perspectives as wide as those of the first astronauts.

New Perspectives on Today's World

Fortunately, we already know what those perspectives will show us because a century of extraordinary global research and scholarship has transformed our understanding of human, planetary, and even cosmological history. New disciplines such as planetary astronomy, plate tectonics, evolutionary biology, and environmental science have revolutionized our understanding of the histories of Earth and the biosphere. And new ways of dating events in the distant past have let us reconstruct those histories with unprecedented chronological precision.

We have also learned how closely linked are the histories of Planet Earth and its fragile cargo of life. For example, we now know that today's oxygen-rich atmosphere—which helped Earth avoid the sort of catastrophic global warming that made Venus uninhabitable—was generated by the activities of photosynthesizing organisms including cyanobacteria and plants. And we know that in the last billion years, the global climate system has been shaped not just by astronomical and geological processes, but also by a delicate balance between organisms that generate oxygen, and those, such as animals, that excrete carbon dioxide and other greenhouse gases.²

Seeing these interconnections has helped us appreciate the astonishing and disruptive role our own species now plays. But understanding how we came to this role and what it will demand of us means studying not just the histories of particular human communities, but the history of all humans. Today, we can also tell that story with a new richness and precision. And the history of our species turns out to be as complex and compelling as the more localized histories that dominate modern historical research and teaching. Human history has as many unexpected twists and turns as any national or local history, as well as an overarching narrative that can explain our path to the Anthropocene and hint at likely futures.

Human history begins a few hundred thousand years ago, probably in Africa, with the evolution of a new primate species. Recent research has revealed so much about the earliest human communities that, even without written documents, we can tell a compelling, evidence-based story about their lifeways. We can show how, thanks to our ancestors' unprecedented technological and scientific creativity, novel behaviors and social arrangements began to emerge. Instead of just filling the ecological niche in which they had evolved, like most other species, humans began to accumulate more and more knowledge, and that increased their control over local environments and helped them expand into new niches.

Each community had its own local triumphs and disasters, but the species as a whole began to spread well beyond Africa. By the end of the last ice age, almost twelve thousand years ago, humans could be found from the Arctic to the tropics, along the world's shorelines, and in its savannas, river lands, and deserts. In the post-ice-age era of agricultural technologies, human numbers and impacts on the biosphere increased faster and faster, building to the explosive changes of modern times, as new technologies and social arrangements gave us more and

more power to manipulate our fellow creatures and transform the earth's surface, oceans, and atmosphere.

Human history is a story of dazzling cultural and technological diversity, and of both conflicts and connections. But it also reveals how we became the most powerful species on Earth in just a few hundred thousand years—the blink of an eye on the scales of planetary history.

The history of humanity is not yet a standard part of school or university curricula. But more and more people know this story, and it is being taught. “Big History” courses adopt the radical strategy of setting human and planetary history within the much larger history of the whole Universe, to construct a modern origin story based on the best recent research and scholarship.³ That story could not have been told even a century ago. There is already considerable support material for Big History courses, in print and online, and they can be extremely engaging. Indeed, the sheer hubris of trying to understand *all* of the past makes for exhilarating teaching and learning, while encouraging the breadth of vision needed to really understand what is going on today. Big History courses also help students integrate information and insights from multiple disciplines: from cosmology and physics, to chemistry, geology, biology, and human history. That is the sort of dynamic, interconnected knowledge that a younger generation will need as it faces the daunting challenge of maintaining a livable planet.

Reasons for Grounded Optimism

Whatever form it takes, a more expansive and interdisciplinary perspective on today's world can galvanize the Great Transition by reorienting the thinking, attitudes, and motivations of billions of people.

As the astronauts learned, seeing Earth from space can shock us into a new appreciation of the home we all share, and make local conflicts seem both petty and dangerous. Teaching the history of humanity can be equally transformative by helping us see ourselves as citizens of humanity, just as the teaching of national histories once helped build loyalties to nation-states. And a sense of global citizenship can help motivate and mobilize most people on Earth behind the challenges of the Great Transition. It can inspire action by clarifying shared goals, driving research on pathways to a better future, and encouraging hope.

This is not to discount the long legacies and persistent presence of many divisions by class, language, gender, race, and culture. But it is to argue that forms of global solidarity and loyalty can coexist with many forms of difference, just as they do within modern nation-states.

The history of humanity offers other reasons for optimism, too. For example, it shows that our exceptional creativity and capacity for learning are defining features of our species. They have persisted throughout human history and, in recent centuries, have helped improve the lives of billions of people. Their source lies in collective learning: the ability that human language gives us to share and accumulate ideas and insights about our world with a virtuosity and on a scale that no other species can match. Our unmatched creativity holds the promise that we will find many novel solutions to the technological, social, moral, and intellectual challenges of the Great Transition.

Human history also highlights our exceptional capacity for collaboration, despite the many things that divide us. Even in the earliest historical eras, gifts and ideas were exchanged through networks that sometimes spanned entire continents; in the last ten thousand years, those networks became larger, denser, and more ramified; and in the last five hundred years, they have become planet-wide. In 1800, it still took many months or even years to travel around the world, and the fastest messages traveled by horse or carrier pigeon. Today, passenger planes can cross continents in a day, and the internet lets us chat across oceans and continents as intimately as we once chatted on village streets. Eight billion humans are now connected through global flows of information, goods, money, people, and ideas.

There is a powerful analogy here with the evolution of multicellular organisms. Until a billion years ago, most life on Earth consisted of single cells. Then super-organisms evolved whose survival depended on the ability of trillions of cells to collaborate in managing and caring for the huge organism of which each was a part. Collaboration on such a scale was possible because each cell in a multicellular organism had many ways of listening to, communicating with, and partnering with other cells, as well as a shared interest in the project's success. That is why, excepting rogue cells such as melanomas, most cells collaborate enthusiastically in the larger task of group survival. By analogy, our task today is to build the tendons, muscles, and neural interconnections that will allow all humans to collaborate on building a better future.

Of course, optimism must be tempered by realism. Most of the existential threats we face today, including the danger of catastrophic global warming, arise from our exceptional creativity. And

there is a dark side even to our capacity for collaboration because it has been mobilized so often for warfare. Conflicts of interest will not vanish, but only now, in the era of nuclear weapons, do they threaten global catastrophe. The many signs we see today of renewed competition and nativistic deglobalization make it all the more important to support ways of thinking that encourage neighborly collaboration at the planetary scale.

Towards a New Normal

Fifty years ago, when scientists issued the first dire warnings about human activity overshooting planetary limits, few shared their global perspective. In the last twenty years, that perspective has spread within governments, corporations, international agencies, and, to some degree, public debate. It drives much of the work of the United Nations, framing the Sustainable Development Goals formally adopted by all members in 2015; it lies behind the work of charities such as *Médecins sans Frontières*; and it shapes global events such as the annual broadcasting of New Year's Day fireworks displays, or the Olympic Games, in which nations compete in friendly ways within a larger world community.

The spread of more global perspectives is moving us towards positive tipping points as sustainable technologies flourish and more governments commit to serious action on climate change. In 2014, the IPCC predicted that without action on climate change, global temperatures could reach a terrifying 4 or 5 degrees Celsius above pre-industrial levels by 2100. Almost ten years later, the UN Environmental Program (UNEP) claimed that recent shifts in attitudes and policy commitments make warming of more than 3 degrees very unlikely. While even that would be bad, continuing shifts in thinking, attitudes, and policies could lead to much better outcomes.

Attitudes can remain stubbornly locked in the past. But they can also switch fast. So encouraging more global ways of seeing and thinking could prove to be one of the easier challenges of the Great Transition. But it will be immensely important, because transforming how we see the world can help build the global consensus needed to tackle the more complex tasks of transforming global technologies and socioeconomic structures.

Endnotes

1. See, for example, David Christian, *Maps of Time: An Introduction to Big History* (Oakland, CA: University of California Press, 2005); *Origin Story: A Big History of Everything* (New York: Little, Brown and Company, 2018); David Christian, Cynthia Stokes Brown, and Craig Benjamin, *Big History: Between Nothing and Everything*, 1st ed. (New York: McGraw-Hill Education, 2014). For more on the field, see the website of the International Big History Association: <https://bighistory.org/>.
2. These interconnections between biology and geology were first recognized in the twentieth century by scholars such as Vladimir Vernadsky, James Lovelock, and Lynn Margulis.
3. For an example of such a curriculum, see <https://bhp-public.oerproject.com/>.

About the Author



David Christian is Professor of History and Director of the Big History Institute at Macquarie University in Sydney. By training a historian of Russia and the Soviet Union, he has become interested in world history on very large scales, or “Big History,” since the 1980s. He taught at Macquarie University from 1975 to 2000, then at San Diego State University, before returning to Macquarie in 2009. He was founding president of the International Big History Association and co-founder, with Bill Gates, of the Big History Project. He is the author of *Maps of Time: An Introduction to Big History*, among many other books and articles. He holds a PhD from Oxford University.



Panel 1: Elaborations



Big Citizenship

Andreas Bummel

The planetary boundaries of the Earth system must be respected and not crossed if the human species and life on Earth are to flourish now and in the future. This requires a proper use of global commons such as the atmosphere—or, in other words, preventing misuse, overuse, and unwanted externalities. However, there is a mismatch between the interconnected planetary character of these goods and the international framework available to manage them, based on voluntary collaboration of legally sovereign nation-states. Overcoming this mismatch by establishing a global polity, in my view, is the biggest challenge in the early Anthropocene.

The long-term view of Big History as outlined by David Christian is thus of crucial importance. A long-term perspective that looks at the evolution of the human species appears to make it self-evident that the entity of the nation-state is likely not the final word in humanity's political development and should not be. Big History looks at humanity's common path from the beginning of the universe to its end over billions of years. The enormity of space and time at play as well as the outer perspective contributes to human humbleness and unity. We are living on a blue dot in infinite darkness. In this view, the goal of achieving political unity in order to master the challenge of keeping this common home intact seems like a no-brainer. It does not need to be spelled out by those advancing the approach of Big History.

Facilitating a sense of global citizenship and building solidarity and loyalties beyond the nation-state logically leads this way. Citizenship, after all, is not an abstract feeling but a legal status that makes an individual part of a demos and comes along, in democracies, with distinct rights and also responsibilities. Global citizenship, in consequence, requires a global polity, if the term is not to be stretched of its proper meaning. Big History can be an element of global citizenship

education, which is included in the UN's Sustainable Development Goals, and should indeed be a standard part of school and university curricula across the world.

Another key element of Big History that is missing so much today is its emphasis on universalism. It is an attempt to tell humanity's story from a universal perspective and not from the viewpoint of any of its fragments and particularities. Of course, such a history will likely always remain a work in progress, an approximation, but it is the intention that counts. I believe it is important to stress that this approach is complementary as far as I see it. Big History certainly does not aim to replace other stories and perspectives but attempts to offer a universal approach that is science-based and as such is subject of discussion and change as knowledge expands. Obviously, it is not a critical theory, with a focus on social structures and power systems.

Nonetheless, the biggest challenge of Big History does not lie in narrating current knowledge of the material development of the universe or the biological evolution of life but in telling the story of humanity's cultural, social, and political development in an adequate way. In this field, proven facts and scientific consensus are hard to come by. Outlining different views and explaining this indeed may be a task of Big History, too.

About the Author



Andreas Bummel is co-founder and Executive Director of Democracy Without Borders, an international civil society group promoting global democratic governance. He coordinates the Campaign for a United Nations Parliamentary Assembly, which advocates democratic representation of the world's citizens at the UN and has been endorsed by 1,500 sitting and former lawmakers from over 100 countries. He is co-author of *A World Parliament: Governance and Democracy in the 21st Century* and *A United Nations Parliamentary Assembly: A Policy Review of Democracy Without Borders*.



Governing a Shared World

John Bunzl

I very much appreciated David Christian's essay and its appeal for a more expansive perspective on human history. An enlarged world-centric perspective is absolutely necessary if the global (i.e., world-centric) challenges we face are to be overcome.

Indeed, increasingly larger, more expansive perspectives and physical scales are themselves part of evolution. Every living organism and its society will tend to expand to the limit of its capability subject, of course, to competitors and environmental limitations. Humans are no different, yet our enormous capability and ingenuity is now placing us beyond sustainable limits and puts

us in grave danger. The scale of most living organisms or their societies is thus regulated or governed by competition (i.e., predators) or by environmental limits. For humans, on the other hand, regulation and governance will have to be *self-imposed* if we are to prevent ourselves from collapse.

A key aspect of human evolution and, perhaps, of Big History is the history/evolution of the self-regulation/governance of human societies. Seen from such an expansive perspective, we can see that human governance systems have evolved towards ever-larger geographical scales: from family bands to larger tribes to still-larger medieval city-states to today's even larger nation-states. Supranational forms of governance, such as the EU or UN, are also being experimented with. Forms of governance, too, have evolved, generally tending to move from authoritarian to more democratic systems. Likewise, worldviews have gradually expanded in tandem from ego-centric to ethno-centric to nation-centric ways of seeing the world. The challenge today, as Christian points out, is for more of us to take yet a further expansionary step to see the world world-centrally.

The key driver behind this expansion of governance has been technology. New technologies evolve and spread quickly and tend to undermine then-existing systems of governance. A key aspect of a world-centric view on our globalized economy, for example, is to recognize the profound effect that the free movement of capital, corporations, and investment have on national governments. This free movement has engendered in every government the absolute need to maintain the international competitiveness of its national economy. This means competing destructively with other nations in order to maintain healthy levels of employment and inward investment. Such competition, of course, makes it difficult or impossible for them to act adequately on many global problems, including climate change.

From an evolutionary/Big History perspective, life today—be it capital, corporations, communications, the climate, or other problems—has become inescapably global/world-centric, and yet our governance systems are still only national, i.e., nation-centric. There is a governance gap. We need, in short, to evolve some form of coherent international governance that is capable of dealing with world-centric problems so that the scale of governance once again matches the already-global scale of our economy.

While that may sound outlandish, especially given the present state of international relations, humanity is on a trajectory toward collapse and mass die-off unless such a system of governance is put in place. Being able to arrive at such a conclusion, rather than blaming corporations or negligent politicians or capitalism, etc., is, I suggest, the great advantage of taking an evolutionary/Big History perspective. We start to see more clearly what the real problem is in an evolutionary context and what needs to be done about it.

To underline my point about the essentialness of global governance, Christian gave the example of the cooperation demonstrated by multicellular organisms. However, to relate this more precisely to self-regulation and governance, evolutionary biologist John Stewart points out, “If cells could reproduce independently they would compete destructively with each other, making a multicellular organism impossible. What was needed was the emergence of constraints that prevented competition between cells. The constraints that evolved were arrangements that ensured that each cell in a multicellular organism had the same DNA—i.e. the same governance.”¹

It is, thus, the development of an appropriate form of global governance that evolution now invites us towards. This need not mean a world government but could, for example, take the form of a series of internationally negotiated multi-issue policies that are implemented *simultaneously* by all or sufficient nations. Simultaneously, to avoid any risk of free-riding and to avoid any nation losing out to any other. In that way, global coverage could be achieved without the need for a new institution of world government.

Such “simultaneous policies” are, indeed, beginning to emerge almost automatically as a result of crises. A recent example was the global financial crisis of 2008 during which all the world’s major central banks acted simultaneously to cut interest rates by 0.5%. As the *London Financial Times* reported, this action was “unprecedented” and was a “historic piece of coordination.” Although they were not part of the plan, the newspaper further reported that the People’s Bank of China “moved almost simultaneously” to cut its rate as well.

The advantage of an evolutionary/Big History perspective, then, is that it allows us to see what the underlying problem is and where the focus of our actions should lie.

Endnotes

1. John Stewart, personal email to John Bunzl, June 11, 2022.

About the Author



John Bunzl is a global political activist, businessman, and the founder of the Simultaneous Policy (Simpol) campaign, a way for citizens to use their votes to drive politicians towards global cooperation. It has supporters in over 100 countries and enjoys the support of a growing number of Members of Parliament around the world. His authored and co-authored books include *The Simpolar Solution*, *Monetary Reform – Making it Happen!*, *People-Centred Global Governance – Making it Happen!*, and *Global Domestic Politics*. He has published numerous articles on global governance in the *Journal of Integral Theory & Practice*. He has lectured widely, including to the Schumacher Society, the World Trade Organisation, the Lucis Trust, and various universities.



What Evolution Teaches

Helen Camakaris

I would like to thank David Christian for highlighting the importance of Big History in relation to the Great Transition. However, much as I welcome his essay, I fear it only scratches the surface of our heritage and its implications. Christian hints at our fortuitous evolutionary beginnings on this fragile planet, but doesn't delve into the implications of evolutionary science. He also hints at how the many branches of modern science and history have been conducted in siloes, rarely bringing the strands together to create a new vision.

The long view of history must surely start with our evolution, and the psychological constraints with which we are still burdened. Evolution works according to the simple algorithm of replication, variation, and selection (whether natural, reproductive, or imposed), a fact that carries enormous implications. Life simply evolved according to the evolutionary imperative, favoring the genotypes of individuals who leave the most descendants, with evolutionary fitness being determined by psychology, as well as physiology, intelligence, and physical attributes.

When we first evolved as hunters and gatherers, the traits that were retained included the ability to make rapid decisions when faced with danger or opportunity, living in the present, seeking status, showing loyalty to one's own tribe, and, often, aggression towards other tribes. We lived in the present, and some of our ancestors were even guilty of overkill of mammoths and other game. However, as a small population with few needs, we survived unscathed, even if the rest of the natural world suffered. While altruism also emerged as a trait, it was largely reciprocal, limited to kin, or circumscribed by the identification and punishment of cheating.

These traits were an advantage in this environment and at this time in history. With intelligence came enhanced cognition, but most reasoning was still emotional and instinctive, with rational

thought limited to certain difficult tasks. At that time, our ability to comprehend large numbers and exponential growth was also very limited, but is now a trait that makes effective action against climate change, rising population, pollution, and even COVID, particularly difficult.

Increased intelligence led to tool-making, copying, and language, and eventually to agriculture and trade just 12,000 years ago. This created the opportunity to accrue land and wealth, which generally led to male domination, with protection of one's "good fortune" often leading to hierarchies and violence. Specialization in trades and mercantilism followed, with business creating burgeoning towns and cities, followed by nation-states. However, almost every ancient civilization has failed, succumbing to climatic conditions with shortages of food or water, overturned by rebellion, or overpowered by conquest, all largely a consequence of the fragility of such an enterprise.

Increased intelligence and growing populations also unleashed technology and rampant exploitation on a global scale. The Industrial Revolution in the eighteenth century, which arose following the Enlightenment and spread around the world, certainly lifted many people out of poverty, but at what cost? Together with the rise of neoliberalism, it set in motion the exploitation of resources and the production of CO₂, leading to the Anthropocene, and specifically to the "technosphere," first described by Peter Haff.¹

These traits have continued to leave an indelible mark on our present make-up, a phenomenon known as "evolutionary mismatch."² So even now, we make many poor decisions by "gut instinct," whether it is choosing sweet but unhealthy food, ignoring climate change because it is slow and the damage lies in the future, pursuing wealth and exhibiting conspicuous consumption to earn status, and choosing a political party to further our self-interest, aligning our values with our chosen "tribe," even at the risk of war and the end of our civilization.

I recognize the importance of education and leadership, but I doubt it will give rise to an epiphany in enough of the global population. Most people are living day to day, swayed by the psychology inherited from the distant past, much of which is now maladaptive. I believe our only hope lies in using cultural evolution to find ways of changing how society functions, particularly how governments and other institutions might bring about a global sea change in the assignment of priorities and in social norms.³

Cultural evolution occurs in much the same way as genetic evolution, with ideas or memes being copied, altered, and selected, much as genes are. Institutions and political systems desperately need to be overhauled, such that they can nudge us in the right directions, whilst being far more representative. New models for economics would be a necessary part of the transition, replacing neoliberalism.

Big History can tell us a great deal, particularly if it recognizes the role of human nature and evolutionary mismatch in why civilizations fail, why we have governments that are unable to solve “wicked problems,” and why we may be headed to hell in a handbasket if we do not use our intelligence to leverage solutions through cultural evolution.

Endnotes

1. Peter Haff, “Technology and Human Purpose: The Problem of Solids Transport on the Earth’s Surface,” *Earth System Dynamics* 3 (2012) 149–56.
2. Norman Li, Mark van Vugt, and Stephen Colarelli, “The Evolutionary Mismatch Hypothesis: Implications for Psychological Science,” *Current Directions in Psychological Science* 27, no. 1 (2017): 38–44.
3. Helen Camakaris, “Evolutionary Mismatch, Partisan Politics, and Climate Change: A Tragedy in Three Acts at This View of Life,” 2021, <https://thisviewoflife.com/evolutionary-mismatch-partisan-politics-and-climate-change-a-tragedy-in-three-acts/>

About the Author



Helen Camakaris is an Honorary Fellow in the School of Biosciences at the University of Melbourne and a writer on sustainability, climate change, evolutionary history, and psychology. She holds a PhD in microbiology from the University of Melbourne, where she continued as a Postdoctoral Fellow to study how bacteria regulate genes in response to their environment.



The Task of History

Bonn Juego

After reading David Christian's essay for the Great Transition Initiative (GTI) and getting reintroduced to the Big History (BH) project at this historic moment in the struggle for planetary well-being, I realize that even if earthlings and fellow species were made extinct due to more severe climate change, pandemics, and nuclear wars, the Earth and the whole system of the universe would continue to exist. A couple of BH assumptions are worthy of reflection for the GTI: firstly, that the evolution of the cosmos from the Big Bang to the present is characterized by increasing complexity; and secondly, that while the human existence and our ecosystem are fragile, humanity is distinctive for our capacity for collective learning.¹ Based on the rich ideas discussed in GTI forums through the years, I reckon that the latter assumption is easily agreeable, but the former is problematic—especially its single metanarrative about the origin story.

The emphasis of BH on interdisciplinarity is compatible with my orientation as a generalist and with GTI's comprehensive exploration of theoretical and practical solutions toward alternative futures. Even though I grew up in a country heavily influenced by religion, I had the privilege to study at a uniquely secular university in the Philippines during my teens, which made me appreciate early on the principles of the now old-fashioned liberal arts education. I think that BH can enhance its epistemology from the thinkers and doers of GTI, which has a deeper and broader appreciation of the value of diversity and the synergy that comes with it. Successful organizations, prosperous economies, active individuals, and vibrant socio-ecologies thrive on diversity.

Dialectics of Ideas and Material Conditions

In pragmatic terms, GTI appears to have more potentials than BH to be a unifying framework

for historical storytelling and sensemaking about the past, present, and future of human civilization, the biosphere, nature, and life itself. BH is alienating to an overwhelming majority of the world's population affiliated with thousands of existing religions, on which most of them find their sense of meaning and purpose for believing in God, divinity, or the Creation story. Religion is compelling to believers because not only does it have an interesting story about Genesis, but more importantly it also has a theory of how to live as an individual and in relation to others in the community—many of these are written in scriptures as parables dealing with questions of ethics, values, and morality.

The nonbelievers may accuse the ordinary religious follower of escapism. But the prayers of the faithful may be personal wishes and general wishes for human dignity, a good life, justice, world peace, freedom from privation, and safety from the effects of natural disasters. This, to me, is the proper interpretation of Marx's structural-functionalist reading of religion applicable to the present-day neoliberal capitalist-accelerated Anthropocene: "Religious suffering is, at one and the same time, the expression of real suffering and a protest against real suffering. Religion is the sigh of the oppressed creature, the heart of a heartless world, and the soul of soulless conditions."

GTI is a counterhegemonic program against the dominant processes of capitalist marketization and barbarization. To this end, GTI has been mindful of Christian's caution that "changing how people see the world may prove easier than changing our material technologies of the social and economic structures within which we live." It is in this ideological endeavor where GTI seems to be more advanced than BH. GTI participants have taken a more nuanced view and recognized that there is a dialectical relationship between the ideational factor and material conditions in shaping the process of learning and consciousness formation of sentient social beings. From a cosmopolitan outlook, GTI problematizes the abstract and the concrete, the grassroots and the global, the long-term and the immediate—for instance, policies on basic incomes, education, resource allocation, and technology that influence our ability and opportunity for human flourishing, including the space and time needed to comprehend the rather esoteric concepts of Big History and Great Transition.

A variant of [Marx's historical-materialist perspective](#) is here again noteworthy to reinforce BH's relevance:

It is, therefore, the task of history, once the other-world of truth has vanished, to establish the *truth of this world*. It is the immediate *task of philosophy*, which is in the service of history, to unmask self-estrangement in its *unholy forms* once the holy form of human self-estrangement has been unmasked. Thus, the criticism of Heaven turns into the criticism of Earth, the *criticism of religion* into the *criticism of law*, and the *criticism of theology* into the *criticism of politics*.²

By taking on this task as it continues its historical theorizing, BH can have—to borrow Christian’s concluding lines—“more global ways of seeing and thinking” for the Great Transition and thus be able “to tackle the more complex tasks of transforming global technologies and socioeconomic structures.” By observing the dialectics between ideas and material conditions in the process of historical change, BH can avoid being construed as an “escapist undertaking” like the foremost priority and preoccupation nowadays of Big Tech oligarchs in space travels, metaverse, parallel universe, computer games, digital surveillance, and cryptocurrency rather than in investing and innovating to solve the real threats to mass extinction and the enduring problems in the environment, health, human relationships, and day-to-day social needs.³

Pluriverse and Decolonization

In addition to supporting Christian’s call for “new perspectives on today’s world,” BH can draw insights from GTI discourses about the pluriverse and decoloniality (notably, the criticism against Eurocentrism) that consider the significance of agency and contingency in historical movement and interpretations.⁴ For example, the concept of the pluriverse has far-reaching implications for knowledge claims of BH to become a useful framework for the interdependent sustainability goals today. Historically, millions of indigenous, premodern peoples have thrived and sustained themselves for thousands of years despite being uninformed by BH’s cosmological theory, despite them believing in gods, spirits, mythology, or magic. So-called modernity’s period of enlightenment, which normalized the scientific order of humanism and individualism, had also been marked by the horrors and cruelties of genocides, slavery, and world wars that decimated human and nonhuman lives.

A dialogue and collaboration between BH and decolonial perspectives would create a critical self-reflection of power imbalances and inequalities (including the logic of imperialism, colonialism, and other forms of knowledge domination) that have systematically centered the “objective Western” methodology and marginalized “non-Western” sensibility about

the emergence and change processes of the universe and life on Earth. Decolonization, or decolonizing history, opens a sphere for intersubjective agreement, but this necessitates the virtue of tolerance for subjectivity of different cultures to nurture their own local ecologies and specific spatio-temporal conception of reality in relation to what they deem existentially meaningful.

GTI in Education

In sum, I see that the BH agenda further enriches the Great Transition Initiative. But if there is anything that the Great Transition Network can learn from the Big History Project, it is that the Great Transition should be proactively promoted as part of the curriculum of schools and universities.⁵ A viable strategy would be a coordinated and concerted effort of academics for BH, GTI, and other pro-interdisciplinary approaches to arrest the cult of specialism. Accordingly, the machineries and ideologies of academic capitalism and the neoliberal university will have to be dismantled. As the pressures of competitiveness permeate the everyday academia, captive by the multi-billion-dollar publishing industry, I sincerely hope that the humaneness of scholarship and learning relations would hold on and prevail over the dehumanizing forces of alienation, careerism, and opportunism around the profession.

Endnotes

1. David Christian, *Maps of Time: An Introduction to Big History* (Berkeley: University of California Press, 2005).
2. Karl Marx, "A Contribution to a Critique of Hegel's Philosophy of Right," 1843, <https://www.marxists.org/archive/marx/works/1843/critique-hpr/intro.htm>.
3. Carlota Perez, "A Long Delayed Golden Age or Why Has the ICT 'Installation Period' lasted so long?," UCL IIPP Blog, June 14, 2022, <https://medium.com/iipp-blog/a-long-delayed-golden-age-or-why-has-the-ict-installation-period-lasting-so-long-b3471a0aaabeb>.
4. Ashish Kothari, Ariel Salleh, Arturo Escobar, Federico Demaria, and Alberto Acosta, *Pluriverse: A Post-Development Dictionary* (New Delhi: Tulika Books, 2019).
5. Bonn Juego, "Justice in the Sustainability Curriculum," *Great Transition Initiative* (May 2021), <https://greattransition.org/gti-forum/pedagogy-transition-juego>.

About the Author



Bonn Juego teaches sustainability strategies at the Jyväskylä University School of Business and Economics and chairs the Finnish Society for Development Research. He has published extensively on crises in capitalist development, authoritarian neoliberalism, populism, and resurgent nationalisms. He serves as an expert for the World Economic Survey of the Leibniz Institute for Economic Research and on the editorial boards of *Globalizations* and *Just Ecological Political Economy*. Previously, he worked in the Philippine government, social movements, and global civil society. He holds a PhD in development and international relations from Aalborg University.



Narratives of Unity

Michael Karlberg

In his opening essay, David Christian asserts that “[o]ur challenge today is to normalize more expansive ways of seeing and thinking that can offer the guidance, motivation, and hope needed to unite humans behind the colossal project of the Great Transition.” To the extent that some Big History narratives support a transition toward global conditions in which every individual and social group can flourish, we should welcome them. But we should beware that other Big History narratives can lead in other directions.

Some commentators have suggested the need to account for the way that a pluriverse of premodern indigeneity and their multiple histories have been supplanted by the oppressive and earth-destroying hegemony of Western modernity. This dichotomous distinction helps us imagine the new pluriverse we might construct in response to the global cataclysm brought on by Western modernity. But the distinction can also lead us to overly romanticize premodern indigeneity and demonize every aspect of Western modernity.

This dichotomous distinction also obscures other major civilizational forms that repeatedly rose and fell on every continent for millennia: civilizations with largely agricultural economic bases ruled by powerful aristocratic, priestly, and/or military hierarchies who often had expansionist imperial ambitions. Such civilizations constituted a frequently oppressive and relatively violent part of the actual premodern pluriverse. Western modernity also largely supplanted these civilizational forms, even as it retained some of their most problematic characteristics.

Of course, it is possible to draw much more fine-grained distinctions than this, in a typology of premodern social forms, if time permitted. But let this distinction serve to point in the direction

of a slightly more complex rendering of Big History that goes beyond premodern indigeneity and Western modernity.

The premodern pluriverse—in all its complexity—did indeed embody remarkable cultural diversity. But it did not provide a viable framework for global interdependence in which humanity as a whole, in all its diversity, could truly flourish. It thus repeatedly gave rise to the will for power, militaristic empires, genocidal wars, enslavements, oppressive social norms, and even some bio-regional ecosystem collapses. As history demonstrates, a pluriverse can embody diverse cultures that, at their best, express that which is most noble in human nature. But a pluriverse can also be a very dangerous place if it lacks any framework of moral restraint.

Modernity, both despite and because of its profound flaws, has forced us to recognize our global interdependence. It has also enabled us to advance a searching global discourse about the moral implications of our ever-increasing interdependence and the depths of socio-spiritual transformation needed to learn how to live together on this planet. But the cultural logic that undergirds modernity prevents us from making the transition toward a diversity-embracing, peaceful, just, ecologically viable, morally coherent global community of communities.

As we extrapolate from aspects of human history alluded to above, and try to discern a path forward, it seems to me that we need to pay special attention to two fundamental challenges that characterize the human condition. First, human beings are wired for egoism and competition as well as altruism and cooperation, and which of these qualities become most fully expressed depends, in part, on which of them are cultivated through processes of socialization and reinforced through communal norms and institutional structures. The path forward requires us to learn how to cultivate and reinforce cooperation and altruism much more universally and systematically than we have yet learned how to do. And this will be needed across the pluriverse. Fortunately, this is a pragmatic path of learning and capacity building that is within our abilities. There are undoubtedly many insights we can draw from the premodern pluriverse, and from modernity itself, to advance us on this path. But even as we draw on these insights, there is much we will still need to learn about how to advance on this path under conditions of heightened global interdependence and increasingly complex global challenges.

Second, human beings are deeply susceptible to drawing in-group and out-group distinctions. The latest science indicates we begin to instinctively and spontaneously draw such distinctions from infancy, often over the most trivial observations of difference. The same empirical sciences indicate that we tend to engage in altruistic and cooperative behaviors within our in-group, while we tend to engage in egoistic and competitive behaviors in relation to outgroups. The path forward will therefore require us to learn how to foster in young people, during their earliest formative periods, a profound and lifelong consciousness of the organic oneness of humanity, which encompasses an equally profound appreciation for diversity as the enriching and ennobling requisite of oneness, so that we can overcome our basest instincts toward othering and, in turn, extend our capacities for altruism and cooperation within a framework of global belonging. No human community, premodern or modern, has adequately accomplished this—especially in the context of eight billion people from diverse cultural backgrounds within an increasingly interdependent global community of communities facing increasingly complex existential threats.

These two challenges are not merely challenges of human psychology—or a challenge of hearts and minds. They will also need to be addressed at the level of institutional structures and the level of communal cultures. Doing all of this will require us to radically transcend the basic logic of Western modernity, which is rooted in egoism and competition.

We can, of course, identify many other requisites of the Great Transition, beyond the two identified above. But, for the sake of brevity, let the two fundamental requisites alluded to above stand in for that larger conversation.

Finally, if Big History is to contribute to a profound transition in human civilization, beginning on these fundamental levels, it will need to grapple with the question of whether human history writ large has a moral arc—or whether it can be bent along such an arc.

In 1853, the American abolitionist Theodore Parker said, “I do not pretend to understand the moral universe. The arc is a long one. My eye reaches but little ways. I cannot calculate the curve and complete the figure by experience of sight. I can divine it by conscience. And from what I see I am sure it bends toward justice.” A century later, Dr. Martin Luther King Jr. distilled this sentiment

into the widely cited yet increasingly contested statement “The arc of the moral universe is long, but it bends toward justice.”

Protagonists of social change today are right to reject simple deterministic interpretations of this statement. If the universe has a moral arc, human agency is surely required to bend it. But is this even possible? And is it coherent with empirically based Big History metanarratives?

Postmodern thinkers tend to reject this possibility. For instance, in the 1980s, the postmodern philosopher Jean-François Lyotard popularized the view that all metanarratives are inherently oppressive. As he rightfully pointed out, oppressive metanarratives abound—such as those used to justify colonization, those used to justify religious proselytization and violence, or those used to justify Cold War conflict. Lyotard argued that humanity has outgrown the need for metanarratives. Ironically, his argument merely constituted a new metanarrative. Indeed, subsequent critical reflection on his thesis has led many to conclude that it is not possible for a meaning-making species to transcend metanarrative. As the cognitive sciences are now demonstrating, human meaning-making depends on storytelling. In addition, even the view that human history is meaningless and directionless constitutes a (nihilistic) metanarrative.

Our challenge, it seems, is to articulate Big History metanarratives that empower us to collectively strive, by degrees at least, to overcome the myriad forms of oppression—including the tendency to impose cultural homogenization—that have characterized so many social arrangements of the past. In this context, the premise that collective human agency can bend the moral arc of history seems like an essential article of faith underlying any empowering story of human history—as the many “people’s histories” written in recent decades demonstrate.

Ultimately, a metanarrative that leads toward human flourishing needs protagonists. In this regard, it is possible to see individuals, communities, and institutions as distinct kinds of protagonists. Each are needed to play their respective roles and make their unique contributions to processes of social change. Moreover, our collective learning process requires us, in part, to rethink inherited relationships between these three kinds of protagonists, and to accept their organically interdependent nature. The underlying logic of Western liberalism, by itself, does not offer an adequate framework for this—in part because it focuses almost exclusively on

the relationships between individuals and institutions. But communitarian social and political philosophies of the past often obscure the significant role played by individuals or institutions. A new synthesis is needed, harmonizing the distinctive contributions of each of these protagonists, within chapters of the story of humanity that have yet to be written.

Finally, any metanarrative capable of inspiring people to bend the long arc of human history toward justice and related moral commitments will need to render those commitments meaningful. In this regard, we will need to overcome the widely assumed false choice between dogmatic moral universalism and extreme moral relativism. On one hand, no society has yet arrived at a mature understanding of the moral principles upon which human flourishing depends, or how to best apply those principles to the betterment of humanity. On the other hand, the dismissal of such principles as mere subjective preferences or mere cultural constructs is proving untenable. If we aspire toward a pluriverse that is entirely neutral or relativistic on all such principles, then we have little chance of ensuring that human diversity itself can flourish.

About the Author



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Our Multifaceted World

Catherine Keller

We are called to choose between two stories: that of a global Big History and that of a pluriversal history. The first is driven by a “grounded optimism”—that modernity’s achievements enable us to overcome the dangerous divisions of history. The second would instead tune us to “the relational ‘ingenuity’ of non-modern worlds” for guidance in the Anthropocene. Through the lens of his Big History, David Christian argues not for some simplistic modernism of inevitable progress, but for an emergence of a global solidarity ever more possible through planetwide transactions virtual and material. For him, those networks have a certain strength of futurity only as rooted in an evolutionary history that goes all the way back to the emergence of multicellular cooperation. In his answer, Greg Anderson does not pitch for pessimism, but for an altogether different sense of human rootedness. He perceives globalization as the cause and continuous driver of the very problem it is being evoked to solve. It is the colonial conquest and uprooting of the rooted local communities, human and otherwise, that constitute modernity. If for Christian human history demonstrates our “exceptional capacity for collaboration,” for Anderson it is this human exceptionalism that is leading our history toward self-destruction.

My own work, at the edges of a discipline that barely counts as “modern,” comes in its specific pluralism aligned with the plurality of worlds making up any human world—material, cultural, religious, cosmic. To resist the monolith of modern civilization and its roots in an un-self-questioning monotheism, any solidarity that is not sliding toward homogenization will embrace—with multiple terminologies—a bioregional pluriverse. And such a solidarity seeks wisdom, as Anderson insists, in the “relational ingenuity of non-modern worlds, extinct and extant.” Those nonmodern worlds are largely indigenous and colonized. But, of course, Western

thought, and certainly theology, took a long time to get modern as well. We have no excuse not to recognize the relational alternative.

Anderson is not announcing the end of the world. But perhaps of *The World*. My own repeated meditations on the apocalypse—even the actual ancient text, not only the conflicting ways it plays out in Western and in secular, modern history—put me close to his insistent pluriverse. The term *apokalypsis* has nothing originally to do with “the end of the world.” It means “disclosure,” not closure.¹ In the biblical context, the revelation warns of collective catastrophe that precedes such world transformation. Catastrophe, not termination. Since then, many earth-worlds, of humans and other species, have already been eliminated. So I find illuminating Déborah Danowski and Eduardo Viveiros de Castro’s philosophical anthropology in *The Ends of the World*. From their Brazilian vantage point, they take on, with splendid irony, “the end of the world”... as “a seemingly interminable topic—at least, of course, until it happens.” Meditating on environmental catastrophe, they call for a “becoming indigenous, local and global, particular as well as general.”² Anderson’s relational pluralism reverberates with this meditation—and so against any “one-size-fits-all” globalization.

Note that Danowsky and Viveiros de Castro also insist upon the global. Indeed, through “the general,” they are making strong and indeed global arguments on behalf of the local. And I am not here content to simply vote *for* Anderson’s pluriverse *against* Christian’s globe. Christian does mean his Big History to support rather than replace the differences that make up our planetary existence. He does not in the present context sufficiently address the challenge and promise of difference. Yet I cannot help but appreciate the theological (indeed, Christian) resonance of his encouragement of “neighborly collaboration at the planetary scale.”

If I am honest to a decolonizing pluriversalism, I recognize that as a concept it relies on a counter-globalism: not an anti-globalism, but a sense of the planetary that counters the globalism of both colonial and neocolonial unity, and (as Christian only implies) that deconstructs the delusions of global progress upon which neoliberal capitalism depends. As the primary force of globalization in the world, this “one-size-fits-all” economics is threatening the life of the earth. So the notion of globality has lost all innocence. But that doesn’t mean it has lost all validity. If we subject it regularly, rhythmically, to the tests of an egalitarian interdependence—often of pressingly local

challenges of race, gender, sex, class, environment, and the “embarrassed, etc.”—we do find that local networks need the collaboration of transnational collectives.³

Such solidarities check the nativist, white nationalist, and isolationist temptations of the local, while countering the abstract detachment and capitalist attachment of the global. And then we might shape that precarious collectivity into an earth-renewing planetarity. A bit. A bit more. The globe is not erased but wrestled out of its abstract geometry into a geopolitics that sustains the planet’s plurisingular life—in the endlessly divergent and interlinked nature-cultures that texture the collective life of earthlings.⁴ And that life must be addressed not only locally but also globally. ...through a multiplicity of local indigeneities that may even need to include my twentieth-floor big city address.

If catastrophe—particularly as it bears down on us in the inhumanity of global warming—is to become catalyst, it will depend upon planetary networks that know that the end of the habitable world is a pressing and present possibility. But not a necessity. Not yet, we sigh. We might then avoid the deception of optimism and the despair of pessimism.⁵ Hope, however, is not optimism. It lacks self-assurance, and it requires grief-work. It carries the ancient double-edge of prophetic rage against the powers and of the improbable “new heaven and earth.” A culmination of Big History? I would decapitalize (in both senses) that construct, acknowledge the temporal depth and multicultural immensity of the life of our species among the others, and recognize in it our gift both to poison (German “*Gift*”) and to wake up.

Endnotes

1. Catherine Keller, *Facing Apocalypse: Climate, Democracy, and Other Last Chances* (Ossining, NY: Orbis Books, 2021).

2. Déborah Danowski and Eduardo Viveiros de Castro, *The Ends of the World* (Cambridge, UK: Polity, 2016), 122.

3. Judith Butler, *Gender Trouble: Feminism and the Subversion of Identity* (New York: Routledge, 1990).

4. Donna Haraway, *Staying with the Trouble: Making Kin in the Chthulucene* (Durham, NC: Duke University Press, 2016).

5. Keller, *Facing Apocalypse*.

About the Author



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From Big History to Big Action

Brian Murphy

Thanks to David Christian for his essay “New Ways of Seeing the World: Big History and the Great Transition.” It brings our attention once again to education and knowledge as an indispensable element in our collective effort to envisage and promote a fundamental transition in human affairs, our relations with each other, and—equally important—humanity’s relation to the planet.

The issues Christian raises have been a preoccupation in my own work as an activist, an organizer, and an adult educator. In my experience, these activities—organizing and education—are intimately connected. The most effective education is rooted in creative action toward a shared goal, and the most effective organizing is rooted in the mutual learning and knowledge that people create and share when working together to investigate and transform their lives, their community, and their environment.

From this perspective, a movement to promote an understanding and appreciation of “Big History” will focus not only on the content of that history, but on the process through which such learning takes place, and through which history itself—living history—is engaged and affirmed in life and action.

That is, the content and the process of education will need to be premised on, and promote, the critical agency of the learner, encouraging an awareness in each of us that we are agents with effects in and on the world. We are not only on the planet, but *of* the planet, and profoundly, we are not only in the Universe but *of* the universe. That is our significance.

The Big History we need to promote will have this insight at its heart, and be animated by its spirit. It will make evident that if we wish to transform the world, we must be willing to transform

ourselves, and work with others in reciprocity to bring about the knowledge and action required to build the just societies, and the global society, to which we aspire.¹

To get to this point, to achieve a critical mass of people committed to learning and action, we will have to reckon with the reality that it is not knowledge alone that will transform the world; knowledge in and of itself is not power. Power comes from knowledge of self, and an appreciation of who we are in the scheme of things in history and in Big History. In my work, the biggest dilemma of the organizer and the educator is to find the key that turns knowledge into action, to transform abstract information into action-knowledge.²

One of the barriers to that transformation, to that strange alchemy that moves a person from knowledge to action, is that even with all the understanding of history in the world, we cannot know the future. We cannot know whether what we do will be enough, whether it will bring about the transformations that are necessary to avoid human and planetary catastrophe. It is much easier to be a hero if we know that it will make a difference, that in the end we will win.

We will never know that. But we act anyway. For that is what it is to be fully human. And we act together, because it is in mutuality, reciprocity, and social solidarity that we most deeply experience our human-ness. The Big History we need to promote will have this insight at its heart and be animated by its spirit.

Endnotes

1. Brian Murphy, *Transforming Ourselves, Transforming the World, An Open Conspiracy for Social Change*, 2nd ed. (Wakefield, QC: Daraja Press, 2021).

2. Brian Murphy, "Learning, Knowledge and Action in Social Movements," in *Beyond Colonialism, Development and Globalisation: Social Movements and Critical Perspectives*, eds. Dominique Caouette and Dip Kapoor (London: Zed Books, London, 2016), 242–258. Available at <https://murphyslog.ca/wp-content/uploads/2023/03/Ch13-Doms-book-BrianKMurphy.pdf>.

About the Author



Brian Murphy is an independent analyst, organizer, educator, and writer. Formerly, he was a lead programmer and policy analyst at the Canadian international social justice organization Inter Pares. He is a co-founder and Steering Committee member of the Ottawa-based International Civil Liberties Monitoring Group (ICLMG) and the author of *Transforming Ourselves, Transforming the World: An Open Conspiracy for Social Change*.



Emerging Stories to Live By

Heikki Patomäki

A worldview based on wide scales of time and space is essential for human survival and flourishing and, as David Christian emphasizes, recent developments in science and technology “have revolutionized our understanding of the histories of Earth and the biosphere.” Moreover, our understanding of human history has developed. The nineteenth- and early twentieth-century universal histories have given way to more recent attempts to overcome Eurocentrism by employing frameworks such as world-systems analysis and global history. Relatively new concepts such as emergence and complexity have also contributed to the integration of different fields of knowledge into a relatively unified and coherent narrative.

One of the aims of Big History is to develop a creation myth and origin story suitable to our globalized world characterized by global risks such as economic growth and consequent ecological deterioration as well as the existence of weapons of mass destruction. An origin story based on the currently prevailing Big Bang cosmology provides some sense of coherence and wholeness in the cosmos—indeed, a scientific creation myth; the metatheory of emergence and complexity fills in the rest of the story

The unified history of the cosmos, life, and humanity could become a standard part of school or university curricula.¹ In this vein, soon after having read Christian’s *Maps of Time* in summer 2005, it occurred to me that such an integrated perspective could also help to overcome the fragmentation of the university into countless technical specialisms. Thus, I proposed it as an obligatory entrance exam book in all fields across the university. Later, I have argued that theories of emergence and complexity show how it is possible to have a unified view of science and scholarship in the midst of all the diversity and pluralism.²

A difficulty with this project, however, is that modern science has been set against all myths. The standard modern meaning of myth has been that of a narrative that has no basis in reason and cannot be true. *Mythos* is seen as opposed to *logos*. This binary opposition is problematic. Giambattista Vico argued already in the eighteenth century that human civilization is based on the emergent capacity to imagine, through complex language, and thus to create something new.³ Since humans transcended basic physical impulses with the help of language, we have been making our own cultural and social worlds. From a Vicoan perspective, consciousness, society, and history are mythopoetically constituted. If a myth is lived by people in their everyday practices and institutions, the resulting social order testifies to the truth of that myth. Hence, in order to know the reflectively conscious and meaningful human world, we must also know its constitutive myths.

The Vicoan viewpoint can be enriched by employing critical reason and epistemological, ethical, and political pluralism. For critical reason, any belief can turn out to be (partly) wrong even when based on science or serving as a constitutive myth of a society and its characteristic practices and institutions. Indeed, a closer look at the Big History narrative reveals ambiguities, contradictory interpretations, and various methodological and philosophical problems. In complex pluralist societies, there are hegemonic struggles over constitutive myths, shaping both our explanatory stories about the past and scenarios about possible futures. Each grand vision, such as that of Big History, may not be as well-grounded, complex, or realist as its advocates may think. The prevailing (or proposed) myths can be critically addressed in various ways (empirical, theoretical, methodological, philosophical, etc.) and at various levels of abstraction. The ultimate point is that to be rational, the stories we tell must be open to criticism and revisable in a systematic fashion. As a result, the stories can become more mature, comprehensive, and nuanced over time, through criticism, change, and learning.

I can only highlight a couple of essential aspects here.⁴ First, at the heart of Big History is the common modern idea that with the development of science, God has been moved further and further away from the story of the origins of the cosmos (not to speak of causal interventions in it). Nonetheless, in the partly secularized world of the early twenty-first century, religion remains an important aspect of many ethical-political identities. Big History would thus benefit from a view on religion that is compatible with a rational and civilized dialogue about divinity, religion,

and religious practices. This requires epistemological relativism, yet relativism does not mean that we cannot have better or worse grounds for adopting some particular god-oriented beliefs or spiritual practices. Our claims to knowledge of god are fallible, like anything else. While any hypothesis about god or divinity can fail, it does not mean that they all must necessarily or ultimately fail. Globalization in the deeper sense, as a coming-together of humanity, requires an open-ended dialogue about the fundamentals, including in terms of religion (whatever forms it may assume). This dialogue has ethical-political implications, for giving a voice to others is not neutral. Dialogue entails recognition of equality and institutions that accord with such recognition; this means global democracy understood as a process of identity- and will-formation.

Second, there are different accounts of modern cosmology, life sciences, and human sciences compatible with established theories of science, including the theory of relativity and quantum theory. In its current form, Big History is ambiguous about its basic storyline. Many cosmopolitans have stressed coherence, wholeness, and even purpose, whereas the followers of philosophers such as Hume and Nietzsche seem convinced that the cosmos is purposeless and the processes of biological and cultural evolution arbitrary. The first account focuses on the emergence and development of life and sees some meaning or directionality in this process. The second revolves around meaninglessness and anticipations of death as some scale of time. The basic themes of the latter, or what I call the liberal-capitalist myth—cosmic meaninglessness if not philosophical desperation, Darwinist ideologies, and short-term comforts of life—provide underpinnings for the contemporary competitive society organized in terms of geopolitical states and world markets.

These are intricate debates, and science remains ignorant about many of the basic things about the cosmos. The current standard version of the Big Bang hypothesis is unlikely to be the last word. The Big Bang hypothesis is a plausible solution to the equations of general relativity and explains some important observations, but many key parts of the theory are conjectural and probably unfalsifiable, including hypotheses about the inflation field, dark matter, and dark energy. Much of the evidence concerning, for instance, redshifts and the expansion of the universe is theory- and technology-laden. Further, many “predictions” are achieved by imputing parameters to a model to make it accord with observations, so they are no predictions at all but

rather instances of circular reasoning. The universe also seems to have developed in the opposite direction than what the second law of thermodynamics claims, that is, toward more complex structures, and at least on Earth this has involved the development of ever more complex forms of life. Nonetheless, the assumption remains that the cosmos is a closed system.

The alternative storyline—revolving around life and learning in a manner that induces cosmic hopefulness—starts from the idea that time, space, causation, emergence, and change are real. I think it would be wise for Big History to side explicitly with this alternative storyline. A key point is that emergent cultural layers such as conscious experience, agency, will, and intentions are real and causally efficacious. This makes both scientific practices and transformative ethical-political activities possible. The rational tendential direction of world history is grounded in our collective human learning, making it possible to solve problems, absent ills, and overcome contradictions through collective actions and by building better common institutions.

Endnotes

1. See <https://bhp-public.oerproject.com>.
2. The proposal was informal, made in a blog in the context of running for becoming the rector of the University of Helsinki in 2008. On the later argument, see Heikki Patomäki, "Repurposing the University in the 21st Century: Toward a Progressive Global Vision," *9th TS J Sfja`* 16, no. 5 (2019): 751–762.
3. Vico's *FZW@W EUWUW* was published in 1725. For a pertinent discussion, Joseph Mali, *FZVDVZST[ifSfja` aX? kFZ, H[Ubiez@W EUWUW* (Cambridge: Cambridge University Press, 2002).
4. See Heikki Patomäki, "Mythopoetic Imagination as a Source of Critique and Reconstruction: Alternative Storylines about Our Place in Cosmos," *agd S'aX4[Y: [efack* 3, no. 4 (2019): 77–97. A longer and more nuanced version forms the basis of chapter 3 of my new book *I adV EFSVZaaV, FZV8fgdVbXI adV Ba ifUe* (Cham, Switzerland: Springer), forthcoming in August 2023.

About the Author



Heikki Patomäki is a social scientist, activist, and Professor of World Politics at the University of Helsinki. He has published over 20 books, 200 research papers, and hundreds of popular articles and blogs on such topics as the philosophy and methodology of social sciences, peace and futures studies, and global political economy, justice, and democracy. His books include *Disintegrative Tendencies in Global Political Economy: Exits and Conflicts* and *A Possible World: Democratic Transformation of Global Institutions* (with Teivo Teivainen). Patomäki is a full member of the Finnish Academy of Sciences and Letters and Life Member of Clare Hall at the University of Cambridge. He is a longtime activist of the international Attac movement and a member of the Steering Committee of EuroMemo and DiEM25. He holds a PhD from the University of Turku.



Cosmo-Local Awareness

Scott Sampson

Today, most of us humans suffer from a little-known disorder: *severe temporal myopia*. We look out at the world and assume it has always been pretty much as we see it. At most, our sense of time is bounded by grandparents and grandchildren. We struggle to imagine life 100 years ago, let alone 20,000 or 20 million. We fail to see the myriad, interwoven ecological connections all around us forged over millennia. And we are wedded to the notion of stasis, envisioning our home places (and all other places) persisting virtually unchanged through time.

Does it really matter that we lack a meaningful sense of time? In a word, yes. Indeed, although unlikely to be recognized by any formal medical body, severe temporal myopia may prove to be humanity's deadliest affliction.

We are players in a long-running cosmic drama. Yet we have forgotten our roles, and even the existence of the play itself. We fail to see the dynamism of the world, the way our local ecosystems continually adapt and evolve as conditions shift. So we are left unable to respond to the needs of our moment. To make matters worse, human-driven climate warming, habitat destruction, and biodiversity losses have greatly accelerated the pace of change, setting us on a path toward disaster.

Having successfully extricated ourselves from the grand narrative of which we are part, we exist in a world of resources, not relatives; commodities, not communities. No surprise then that we seek to counter the resulting separation and loneliness through an unending accumulation of stuff. Of course, any materialist quest for meaning is doomed to fail, ultimately leaving us unhappy and unfulfilled.

Science confirms that we have time to change course, to discover another, more regenerative pathway that aligns with (rather than battles against) the greater natural world. So, given our current eco-crisis, what role, if any, does Big History have in the Great Transition?

This moment calls for a fundamental shift in worldview. Rather than focusing on humanity's distinction from, and superiority over, the natural world, we must learn from Indigenous cosmologies and other wisdom traditions, coming to see ourselves as deeply embedded within a natural world brimming with relatives. Here, then, is where Big History might play an outsized role.

Especially if taught in schools and universities (as Maria Montessori envisioned with her notion of “cosmic education”), Big History has potential to blow out the temporal walls and re-place us within a meaningful universe. This story of everything—which goes by many names, among them the Great Story, the Immense Journey, the New Story, and the Epic of Evolution—is fundamental to understanding the special role we play at this pivotal moment. But how do we address the challenge of Big History's abstractness?

The answer, I believe, is rooting the story of everything in nearby nature.

At first it seems completely counterintuitive to convey the tale of galaxies, stars, and planets through the rocks, trees, and animals we encounter daily. After all, the former deal with the biggest scales of time and space whereas the latter are concerned with the present-day and the hyperlocal. Yet, strangely enough, only Westerners struggle with this juxtaposition. For most Indigenous peoples around the globe, the cosmic and the local are intimately interwoven. Their grand tales inevitably feature a range of community residents: the trickster coyote, the sacred mountain, medicinal plants.

To date, Big History has largely been rooted in abstract science. But if conveyed through the denizens of our local communities, this cosmic narrative would cross the gap from head to heart, coming to life in ways truly meaningful to listeners. Our storytelling goal should be awe, triggering a sense of deep amazement that tends to break down human supremacy and generate feelings of belonging to a vast and mysterious whole. And awe is frequently catalyzed by direct experience. Entry points to this story surround us. That local hill is a gateway to talking

about the birth of the solar system. The elder oak tree down the street is a distant relative who can help convey the amazing tale of life harnessing solar energy. And that singing robin in the backyard is an actual dinosaur, close kin of T. rex.

Imagine being raised in a world where every place and every creature has meaning, revealing reciprocal relationships shared with the web of life that supplies our water, air, and food. While this might sound fanciful, recall that an ecocentric worldview was likely dominant throughout most of the 300,000-year history of our species. We may well have a genetic predisposition to such stories of belonging that encompass nearby nature. In short, meaningful, place-based versions of Big History might serve as the conduit to take us back to a nature-centered worldview.

Importantly, Big History on its own is not a cultural cosmology. Rather, this science-based tale offers a foundation upon which an endless diversity of cosmologies can be constructed, each informed by specific cultural, historical, spiritual, and ecological contexts. And this Great Story must be conveyed as a saga not only of the past, but also of the future. If we are to become good ancestors, we must understand, deeply, that our actions today will influence the unfolding of Earth's immense journey for many millennia to come. Big History can help replace us into the flowing river of time, opening up possibilities for alternative, more hopeful futures.

About the Author



Scott Sampson is a paleontologist, author, science communicator, and Executive Director of the California Academy of Sciences. He has published numerous scientific and popular articles and authored such books as *How to Raise a Wild Child: The Art and Science of Falling in Love with Nature*. He regularly gives presentations to audiences of all ages, on topics ranging from evolution and science to education and nature connection. Sampson is known to children and parents around the world as “Dr. Scott the Paleontologist,” host and science advisor of the Emmy-nominated PBS KIDS television series *Dinosaur Train*, produced by the Jim Henson Company.



The Power of the Long View

Joseph Voros

I have had the great pleasure to know David Christian personally for over a decade now, and was already familiar with the “scenario of cosmic evolution” which physical scientists had developed through much of the twentieth century. It has been my framing worldview since late teenage as a physics student, and I had used it implicitly in my later work (both teaching and research)—after I made the switch to Futures Studies twenty-five years ago—at around the same time as we started using the Great Transition scenarios in our Master of Strategic Foresight program at Swinburne University of Technology to profile the outlook for the twenty-first century. I came across the term “Big History” in 2006 when researching a paper which examined perspectives beyond the somewhat limited view of our own single small planet. For me, Big History and the Great Transition both take a suitably “macro” perspective on contextualizing this moment in our planet’s and species’s lifetime, and together represent the fascinating marriage of a purposefully descriptive view of the past with a consciously normative image of the future.

Big History (BH) is our particular instance of the more general scenario of cosmic evolution as it played out here on Planet Earth. It of necessity places a much stronger emphasis on Humanity than is conventionally the case in the physical sciences. But, of course, it is the *same* continuum, which is why discussions with BH colleagues from those and other disciplines were not only *possible*—which is already remarkable—but also very fruitful, informed as they were by a shared understanding of the overall “through-line” that connects the Big Bang to our present-day planetary civilization (and, indeed, beyond, for every BH scholar I have known so far has unfailingly looked to the future as well). With Christian’s support, along with his textbook co-authors Craig Benjamin and the late Cynthia Stokes Brown, I introduced BH to my university in 2015—both as part of an undergraduate curriculum in Futures Studies and for examining the

coming Energy Transition in the Master's, where it was used to frame thinking about the global energy future and what we might do about it.¹ The undergraduate course ran for five or six iterations before the COVID-19 pandemic led to the exit of thousands of university staff from the Australian tertiary sector. The Master's, too, also went extinct.

As noted, Christian co-wrote the first purpose-written textbook on BH.² But at Stokes Brown's own university, Dominican, BH was not just a single course or two tied to one or a few academics (which it has mostly tended to be), it was being implemented as the world's first university-wide experiment in using BH as a framework for undergraduate teaching. The teams of academics who participated in this "First-Year Experience – Big History" initiative came from pretty much every discipline one finds at liberal arts universities. At first, many of them had no idea what BH was. Yet, despite this initial lack of subject-matter expertise, and some not-so-mild trepidation at the enormity of its scope, they resolved to learn about it together. First, to explore and internalize the essence of BH itself, and then how to teach it to others—not merely as an assemblage of subject-matter experts cooperating across their compartmentalized academic specialties, but rather as a community of co-learners-and-teachers, learning and teaching with each other, both with and for their students. One might imagine that such an approach to education could engender a different dynamic than the one usually found in conventional university classes.

The first book on how to *teach* BH came from these early pioneers.³ A quote from it reveals why the BH framework is so powerful:

Because the Big History framework illuminates the structures that underlie the universe, it is a powerful analytic tool. Because its structure binds together content from all human disciplines, it is a powerful pedagogical tool. Finally, because the structure of the Big History narrative parallels the structures of the physical universe, *even as it tells the story of those structures*, Big History is at once narrative and meta-narrative. All this makes Big History an intuitive vehicle for critical thinking, and for rich, innovative intellectual exploration within students' and teachers' home disciplines, as well as within Big History itself. Perhaps most importantly, a Big History understanding, in reframing all of human knowledge in a way that makes intuitive, logical sense, prepares us to consider possible futures, premised on the patterns we see in the past, and empowers us intellectually to act to shape the future.⁴

And, as they later note:

Four years later, our assessment shows that it's working. Our students report that they understand the world differently. They perceive the connections among their various courses

and the larger context in which their studies in their majors make sense. They are bringing their Big History understanding into their other classes—so that discussions and academic work throughout the university are informed by this larger context. And they are attuned to the future and to their own agency in shaping it.⁵

I would suggest that these holistic- and systemic-thinking skills are precisely what are needed, at the very least, for humanity to “bend the curve” away from the Reference scenario leading to global overshoot-and-collapse foreseen so clearly by the *Limits to Growth* fifty years ago, towards the Great Transition that is the objective of this community.⁶ And, that they are being instilled into the young hearts, minds, and hands who are inheriting our so-far mismanaged planet allows, perhaps, for some small measure of rational hope.

My own direct experience of teaching BH is completely resonant with these observations. As a *futures* educator who taught BH, a quite unexpected discovery was that one of the best ways to help students find a sense of their place in the present—and especially to feel agency towards their future—is to show them the *whole* of the past, even if only in a roughly sketched “through-line” form.

The BH through-line interconnects all human knowledge disciplines in the order of the emergence of their subject matter, over the 13.8 billion-year rise of complexity over cosmic time. It provides an orienting supportive “backbone” from which deeper explorations into these disciplines are possible. These could run the gamut from the esoterics of particle physics, to the specifics of amino acid biochemistry, to the politics of consensual power from below transitioning to coercive power from above, to the homeostatics-writ-large of the biosphere of our planet. It is all there and all ready to be explored, as and when one is so moved. That these may not be immediately visible is not due to their *absence*, but to the necessary choice of *scale*. An orienting map must leave out some of the finer detail because its job is not to show all of that detail; rather, it is to show the knowledge explorer where to go looking for and to find that detail. But also, and even more importantly, to show how these many details interconnect.

So, while it is possible to discuss and debate the many ways that BH might be modified towards being a more perfect framework for meeting the existential challenge of the Great Transition, it is already perfectly sufficient *right now* for the work that is so urgently needed—reorienting

the hearts, minds and hands of humanity towards having a future at all, even if that is not a completely perfect one. Let not the chimera of theoretical perfection delay the necessity of practicable action. Our species and our planet just don't have the luxury of time any more.

Endnotes

1. Joseph Voros, "Big History as a Scaffold for Futures Education," *Journal of Futures Studies* 10, no. 4 (2018): 263–278; Joseph Voros, "Big History and Anticipation: Using Big History as a Framework for Global Foresight," In *Big History: The Big Questions*, ed. Roberto Poli, pp. 426–464 (New York: Springer International, 2017). For a broader discussion of Big History, see also Joseph Voros, "Big History in Its Cosmic Context," *Journal of Futures Studies* 3, no. 3 (2019): 57–80.
2. David Christian, Cynthia Stokes Brown, and Craig Benjamin, *The Big History of Everything* (Boston: McGraw-Hill Education, 2013).
3. Richard B. Simon, Mojgan Behmand, and Thomas Burke, eds., *Big History: The Big Questions* (Berkeley: University of California Press, 2014).
4. *Ibid.*, 12.
5. *ibid.*, 344.
6. Paul Raskin, Gilberto Gallopín, Pablo Gutman, Al Hammond, and Rob Swart, *The Great Transition: The Great Transition* PoleStar Series no. 8 (Boston: Stockholm Environment Institute, 1998), <https://greattransition.org/archives/other/Bending%20the%20Curve.pdf>; Paul Raskin, Tariq Banuri, Gilberto Gallopín, Pablo Gutman, Al Hammond, Robert Kates, and Rob Swart, *The Great Transition: The Great Transition* PoleStar Series no. 10 (Boston: Tellus Institute, 2002), <https://greattransition.org/gt-essay>

About the Author



Joseph Voros has been a professional futurist for more than two decades. He was associated with the Master of Strategic Foresight at Swinburne University for its entire run (2001-2018), where his research encompassed foresight methodology and models of social change, and used the broad sweep of cosmic evolutionary history as way to frame and explore the longer-term futures of global civilization. He is a member of the World Futures Studies Federation, the Association of Professional Futurists, and the International Big History Association (on whose Board he served from 2012 to 2017). He holds a PhD from Monash University in theoretical physics.



Zooming Out, Zooming In

Selvi Adaikkalam Zabihi

Zooming in and zooming out are both important for understanding. We analyze—break things down into their constituent parts and see how those interact, and then break them down even further. And we synthesize—place phenomena within systems or in relationship to other things in wider and wider circles of context. For even simple things, there will be many complementary stories that could be told. So I agree with David Christian about the importance of widening the context within which to understand our lives on this planet if we are to make a great transition.

In addition to different stories that come from zooming in and out with an object of interest, there is also the analogy of looking at reality from different perspectives, such as the famous story of the elephant in the dark room that seems like a fan, a snake, or a tree trunk, depending on which part you encounter. Or there is the analogy of taking cross sections at different angles. I have a magic power of slicing cherry tomatoes through the internal pericarp wall so that the two halves show no seeds. Other slices look different and tell us different things about the structure of a tomato.

The important caution has been raised that Big History could perpetuate harmful patterns, assumptions, and power relations of modern, Western societies in ways that dominate or erase the diversity of perspectives in our world. Even though we can always seek to question elements of the worldviews we inherit, we cannot escape them entirely. Even the pluriverse narrative is shaped by a specific worldview. It is, for example, a largely secular narrative (at least insofar as it tends to treat religion as a mere social construct), and it aligns with relativistic ideas in recent

Western social theory. Still, it is helpful because it makes space for diversity and problematizes relations of oppressive power between different groups and perspectives. How do we tell Big History in ways that do not detract from the more particular stories of our pluriverse? I can think of a couple of ways that we can address this, though I am sure there are others.

First, we can strive to include diverse perspectives in the narrative-building work, and seek to find points of resonance or harmonization between them or see how they fit together. The story is stronger if it can bring together different perspectives. Once you see the whole elephant, you can see how all the parts fit together. But while still in the dark, it would take exceptional multilateral skills of listening to, sharing, and synthesizing all the different perspectives to develop some conception of an elephant from the fan, snake, tree trunk, and so on.

Second, and this is an important complement to the first point, while seeking always to be fair to whatever material from which we are seeking to build a narrative, we can allow purpose to shape the story. We need a way out of the crisis we are in. The pluriverse needs a way to move in a somewhat coordinated manner to save (or re-create) itself. Given a range of viable interpretations of different strands in the narrative, which ones serve the aim of collective flourishing across our diversity? Even this determination would need to be made by including diverse perspectives. Being explicit about purpose and process also helps to build a narrative without overstating its claims.

About the Author



Selvi Adaikkalam Zabihi is the Economic Justice Officer at the US Bahá'í Office of Public Affairs and has taught courses on inequality at Western Washington University and Whatcom Community College.



Confronting a Different World

Jan Zalasiewicz

It is, as ever, stimulating and thought-provoking to read David Christian's explorations of Big History, and of how this time- and space-spanning concept can relate to the idea of a Great Transition in societal awareness and collective action. At heart, one can only applaud, and encourage, this exercise in building a grander perspective to understand the rapidly changing world—and, more fundamentally, the rapidly changing Earth—around us. Still, one might use this opportunity to chew over one or two more ideas which seem to be germane, in one way or another, to the matter at issue.

One is the sheer scale and speed of the phenomena associated with the Anthropocene: the geological Anthropocene, that is—essentially the original concept of Paul Crutzen—the one that represents overwhelming change to the Earth System, rather than the interpretation referring to all significant human impacts on our planet, ranging back 50 millennia or more.¹ The former is just some seventy years long. Yet, in that time, atmospheric carbon dioxide levels have increased by approximately 100 ppm, more than half a trillion tons of concrete have been produced (enough for a kilo per square meter of the Earth's surface, land, and sea), the amounts of reactive nitrogen and phosphorus at the Earth's surface have doubled, plastics have been spread worldwide by wind and water currents to form a kind of hyper-persistent lint layer—and so on, and so on. Take an even briefer time scale—say, the one that separates us today from Crutzen's coinage of the term in 2000—and the speed and scale become starker. In 2000, the "anthropogenic" mass on Earth—all the things that we build that are in functional use—was equivalent to about half the mass of the biosphere, of all living things on Earth. Now, it has zoomed to exceed the biosphere in mass.

Something very big and very recent is clearly going on, at planetary scale. This is despite the

fact that, as individuals of *Homo sapiens*, we are biologically, cognitively, physically, pretty much the same as our ancestors going back a long, long time—arguably to the “cognitive revolution” some 50 millennia ago. Read, say, Lucretius’s deductions on the nature of reality more than two thousand years ago—in rhyming couplets, no less—and one is communing with a mind that is as modern, sharp, and subtle as any alive today. Who can say that musical intelligence has increased since Bach and Mozart (or artistic intelligence since the Altamira cave-painters)? Or the quality of scientific thought since Comte de Buffon and Alexander von Humboldt (or Aristotle, for that matter)? There are more of us, true, but that by itself is not the factor X that has led to what has now crystallized as the “Great Acceleration” of population, industrialization, and globalization that ignited in the mid-twentieth century.

The critical threshold may well have something to do with the technosphere, the brainchild of Peter Haff, which is not just the sum of all technological constructions on Earth, but their intertwinement with the humans and human systems—board rooms, political parties, trade unions—that notionally “built” them.² The technosphere in this sense operates at different levels than individual artefacts and individual manufacturers/operators, in the way that the behavior of the biosphere is not simply the sum of the behaviors of individual plant and animal species, but has emergent properties of its own. The global technosphere, thus, has just recently emerged and, as Peter Haff has said, is now “racing ahead like a forest fire” and evolving at furious speed. We humans are bound up in it and are now almost wholly dependent on it to survive. But we cannot be said to control it, not least because we are divided into multiple competing or warring factions at almost every level of what might be called global society.

But can the technosphere be guided, or perhaps nudged, into pathways that are a little less destructive? (For while the biosphere has become almost perfect at recycling, the infant technosphere is appalling in this respect, its functional parts being embedded in a growing waste mass an order of magnitude greater than it is.) David Christian makes the analogy of how single-celled life, about a billion years ago, gave rise to multicellular organisms, in which the millions of individual cells collaborate to build a functional greater whole. This was indeed a mighty evolutionary step, but from a paleontologist’s perspective, it was not quick, taking the best part of a billion years from the earliest, tentative experiments deep in the Precambrian to its definitive expression in the “Cambrian explosion” (itself taking some 30 million years) a little more

than half a billion years ago. Throughout all of this almost unimaginably protracted gestation period, the biosphere remained functionally microbe-ruled. What took the metazoans so long? While posited answers to this question often dwell on environmental constraints such as oxygen levels, I am drawn to the argument that building the necessary cellular command-and-control systems was just so difficult that it needed these many millions of years of trial-and-error to develop proper functionality.

So we have our work cut out to build the collaborative structures that can help us better comprehend, and navigate, the turbulent conditions of the hotter and biologically depleted world of the emerging Anthropocene. Are we, thus, on a descent to nothing? Well, one of the great gifts of the Big History perspective is that it shows that what is now happening has no real analogue in the 4.5-billion-year history of our planet or (so far as we are aware) in the 13-billion-year history of the cosmos. While we can find partial analogues for some of the planetary symptoms as regards, say, global warming (in the Paleocene-Eocene Thermal Maximum) or mass extinctions (the Cretaceous-Paleogene event, for instance), nothing like the technosphere, and all its weirdly various possibilities, has emerged on this planet. Maybe that gives scope for hope as well as foreboding.

Endnotes

1. Paul J. Crutzen and Eugene F. Stoermer, "The 'Anthropocene,'" International Geosphere-Biosphere Programme (IGBP) Newsletter, 2000, reprinted in "Have We Entered the 'Anthropocene'?", International Geosphere-Biosphere Programme, October 31, 2020, <http://www.igbp.net/news/opinion/opinion/haveweenteredtheanthropocene.5.d8b4c3c12bf3be638a8000578.html>; Julia Adeney Thomas and Jan Zalasiewicz, "Strata and Three Stories," *RCC Perspectives: Transformations in Environment and Society* 3 (2020).
2. Peter Haff, "Technology and Human Purpose: The Problem of Solids Transport on the Earth's Surface," *Earth System Dynamics* 3 (2012) 149–56.

About the Author



Jan Zalasiewicz is Emeritus Professor of Paleobiology at the University of Leicester. A geologist and paleontologist, he has taught geology and Earth history, and studied fossil ecosystems and environments across half a billion years of geological time. He is the author of such books as *The Earth After Us*, *The Planet in a Pebble*, and (with Mark Williams) *The Goldilocks Planet*, *Ocean Worlds*, *Skeletons*, and *The Cosmic Oasis*. His interests include graptolites (extinct plankton), mudrocks, ancient climate, and the concept of the Anthropocene.



Panel 2: Interrogations



Decolonizing History

Biko Agozino

I enjoyed reading David Christian's clear elucidation of the need for a universal pursuit of the knowledge of the origins or metaphysics of beings and things on Earth—and beyond, including the stars and the planets. No knowledge is a waste, and space exploration has benefited humanity by innovating satellite communications technologies that have bridged time and space to make the world a global village.

In this opening essay, Christian argued that Big History may help us to gain better perspectives on how little human history is compared to natural history so that we may overcome the race, class, and gender divisions that still plague the world. This hint suggests that Big History, and any history for that matter, will need to grapple with the problem of racist imperialist patriarchy in order for the world to overcome what is usually called the "Anthropocene" and the anthropogenic global warming that is its hallmark. But such a generalized treatment of humanity risks blaming the victims. Indeed, other authors have identified the real causes to be the "imperialismocene," given that indigenous peoples went for millennia without wrecking the earth until Western modernity came with greed and authoritarian cruelty.¹

In *Black Reconstruction in America*, W.E.B. Du Bois challenged the ideological uses of History by writers who harped on failures while ignoring successes, especially in the winning of the demand for public funds to be used to fund public schools for all.² In her book *Decolonizing Methodologies: Research and Indigenous Peoples*, prominent indigenous scholar Linda Tuhiwai Smith warns that history has remained a tool for colonization.³ Big History, by ignoring the struggles to decolonize the methodologies of historiography, risks doing so as well. Indigenous peoples tell the same stories but without the greed for power to control the entire world and its resources, kill original

inhabitants and steal their land, and enslave millions of Africans to work the land for hundreds of years, before colonizing the rest, and continuing to control everyone through financial power or imperialism against the resistance in the ongoing struggles for decolonization. How come such a huge story is not part of Big History? Echoing Angela Davis's call, building on Du Bois, for "Abolition Democracy," we urgently need a "Decolonization Democracy."⁴

Edward Said challenged Michel Foucault and Jürgen Habermas on this question by inquiring why they never addressed colonial power and the resistance to it in their work.⁵ Foucault responded indirectly by stating that he was concerned with the history of modern Europe and not history with a big "H." Said retorted that there is no way anyone could write the history of modern Europe and omit the huge impacts of Europeans on the rest of the world and vice versa. According to Said, Frantz Fanon is a better historian for paying attention to the big history of white supremacy and imperialism from the perspective of those struggling to decolonize the world and regain their independence.

Big History will be an escapist pastime if the huge history of the devastation of the lives of millions of people is swept under the carpet by Western historians who are eager to study the history of stars and galaxies while evading the urgent demand by indigenous peoples for reparative justice in recognition of the historical crimes and harms caused by European imperialism, racism, and sexism. Big History is in need of decolonization, just like every academic discipline and every area of life today.

Endnotes

1. Jayati Ghosh, Shouvik Chakraborty, and Debamanyu Das, "Climate Imperialism in the Twenty-First Century," *Monthly Review* 74, no. 3 (2022), <https://monthlyreview.org/2022/07/01/climate-imperialism-in-the-twenty-first-century/>.
2. W.E.B. DuBois, *Black Reconstruction in America* (Philadelphia: Albert Saifer, 1935).
3. Linda Tuhiwai Smith, *Decolonizing Methodologies: Research and Indigenous Peoples* (London: Zed Books, 1999).
4. Angela Davis, *Abolition Democracy: Beyond Empire, Prisons, and Torture* (New York: Seven Books, 1935).
5. Edward Said, *Culture and Imperialism* (New York: Vintage, 1993).

About the Author



Biko Agozino is Professor of Sociology and Africana Studies at Virginia Tech and Professor Extraordinarius at the University of South Africa. His books include *Critical, Creative and Centered Scholar-Activism: The Fourth Dimensionalism of Agwuncha Arthur Nwankwo*, *ADAM: Africana Drug-Free Alternative Medicine*, *Counter-Colonial Criminology*, and *Black Women and the Criminal Justice System*. He is the co-editor of *Routledge Handbook on Africana Criminologists and African Issues in Crime and Justice*, as well as the director-producer of the award-winning short documentary "Shouters and the Control Freak Empire." He is the Secretary of the Association of Black Sociologists. He holds a PhD in criminology from the University of Edinburgh.



Plural Histories

Greg Anderson

As an academic historian and critical theorist, I find the Big History (BH) paradigm deeply problematic. Like all mainstream historical practice, BH assumes that human lives, past and present, have all been lived in one and the same world of experience, namely the “objective” world seen by our modern sciences rather than a “pluriverse” of many different worlds. As I suggest below, a decolonized pluriversal history would encourage us to tell stories about the past, present, and future which are very different from BH’s universalist story. You can decide for yourself which kind of story is more meaningful and/or more conducive to a Great Transition.¹

Over recent decades, a new and very different way of thinking about reality has been supported by activists, artists, and academics in a range of fields, from anthropology to science studies.² In this account, reality is neither something material that exists “objectively,” independent of human minds, nor something purely ideational that exists wholly within those minds. It is rather best seen as the ongoing effect of a self-evident world. This complex materio-cultural effect is realized in experience whenever the planet’s human and nonhuman constituents cooperate to produce stable, equilibrial ways of life. Some now call this process “worlding.” Here’s a way to think about it.

Every human community stakes its life on certain truths about the essential contents of experience, on shared certainties about, say, human nature and the meaning of personhood, about how to relate to other-than-human beings and things, about the fabrics of the lived environment and how they came to be there, and about the sources, means, and ends of life itself. As these truths become tried and tested in practice, they together form something like a commonsense “model” of the world to live by. This model is duly hardwired into the minds and bodies of community members, into their life-sustaining norms and mechanisms, and into

their built environment, shaping their relations with one another and with all the nonhumans on whom their existence depends. As the community successfully reproduces itself across the generations, this model is thus continually and unconsciously enacted in everyday life. And the effect of a self-evident world is thereby realized in experience, a world that seems to have been there all along.

In other words, reality is something historically variable, not something eternally fixed. Given that human communities have lived by a wide range of different truths across time and space, they have enacted a wondrous array of different worlds, none of them more universally real than any other. To make any meaningful sense of past ways of life, one would then have to analyze each one in its own local world of experience, according to its own enacted truths of being, not those of modern Western science. In short, one would need to decolonize historical practice.

When one begins to practice a pluriversal history along these lines, certain patterns soon emerge. For all their differences, visible and invisible, the worlds enacted by the vast majority of history's humans share certain basic metaphysical commonalities.

Whether one thinks of, say, a Greek polis ecology of gods, land, and people; a medieval European Great Chain of Being; the alignment of an earthly with a heavenly realm in imperial China; or the multi-species genealogies of Maori tribes, history's many worlds are typically self-sustaining life systems that are anchored to particular lands. Being in these systems is always relational, since all things at once depend on and contribute to the life of the whole. As they maintain vital symbiotic relations with others, humans come to share the faculties of personhood with those others, whether they be gods, spirits, animals, plants, or even things we now consider inanimate. Being human thus means being respectful and accountable to other-than-human persons, if the system is to remain in balance. It also means accepting one's humble place in the larger order of things, since nonhuman and/or superhuman persons have special powers and knowledges that humans can never possess.

But one kind of world does not share any of these metaphysical commonalities. This is the "objective" world of our own European-style modernity, which is everywhere at once and nowhere in particular. Only in our materialist kind of world is being primordially individual not relational. Only in our individualist kind of world do all things, humans included, exist ultimately

for themselves as free-standing entities, not as components of an all-inclusive system of life. Only in our anthropocentrist kind of world do humans monopolize subjectivity, agency, reason, and all other faculties of personhood, consigning all nonhumans to a subordinate order of “nature.” And only in our secularist kind of world are humans unaccountable to beings more powerful than themselves, since no such beings exist. If there is any god involved at all, it is the strangely detached Christian god, who apparently gave us god-like powers to know all his Creation and do with it as we pleased.

Of course, these modern European-style truths will seem “right” to us, because they are baked into the very tissues of our minds, our bodies, and our way of life. We continually enact them as a world through the everyday routines of our techno-scientific capitalist order. At the same time, the life-sustaining truths of non-modern worlds, with all their gods, spirits, and nonhuman persons, will seem “primitive” or just plain “wrong,” because they violate our materialist “laws of science.”

Yet it is undeniable that countless human communities who have staked their lives on these kinds of “wrong” truths have managed to reproduce themselves successfully, sometimes for hundreds, if not thousands, of years. And it is also quite clear that they have done so without inflicting catastrophic damage on the planetary fabrics. In short, their worlding processes have generally been sustainable.

The same clearly cannot be said of our own modern worlding processes. For all the technological marvels they may have produced, they have also imperiled the whole future of the planet in just a few hundred years. Along the way, they have stoked and unleashed forces which have caused all manner of horrors: genocides and ethnocides across entire continents, the exploitation and racist dehumanization of numerous colonized and enslaved peoples, the nightmares of industrial servitude, two monumentally destructive world wars, the Holocaust, nuclear weapons, epidemics of mental illness and drug addiction, open-cast mining and factory farming, species extinctions and ecological devastation, and, of course, the whole age we now call the Anthropocene.

Clearly, a universalist Big History and a decolonized pluriversal history would tell two very different stories about how humanity has reached this tragic conjuncture.

As far as one can tell, BH's "history of all humans" would still largely be a familiar Eurocentric metanarrative of "progress." A secular materialist story of ever growing human "creativity" and "ingenuity," it would culminate inevitably in the wonders of a techno-scientific capitalist modernity, which has apparently "improved the lives of billions of people." Of course, BH would not ignore "the grave existential threats we face today," like global warming. But in its anthropocentric account, even these would be a product of "our exceptional creativity," which will surely in turn "find many novel solutions" to such problems. Since Big History, like its Big Science ally, perpetuates the modern metaphysical common sense which has brought us to this conjuncture, it just remains unclear from where those solutions might come.

By contrast, a decolonized pluriversal history would not take that modern common sense for granted. Nor would it be looking all the way back to early life on Earth to find the origins of the current existential crisis. Instead, it would be looking squarely at the gigantic rupture in the history of planetary life which began just a few centuries ago, when European elites started imposing their experimental new ways of worlding all over the globe.

Before that rupture, a pluriversal history would see countless human communities collaborating reciprocally and respectfully with the planet's nonhuman fabrics, however conceived, enacting a multitude of relatively sustainable worlds in the process. After that rupture, it would see the wanton destruction of history's pluriverse through the forces of imperialist domination, settler colonization, and the globalizing capitalist "development" which continues to this day. It would see the replacement of numberless relational realities with a single atomistic reality, one that is founded on ontological divisions between culture and nature, secular and sacred, public and private, European and non-European "races," and one human individual and another. It would see the violence inflicted on all things nonhuman by the science-enabled processes of industrialization, hydraulic engineering, fossil fuel combustion, monocultural agriculture, and so on. And it would see the symptoms of the Anthropocene age as nonhuman resistance to modern ways of worlding by the planetary fabrics themselves.

A pluriversal history would thus encourage us to look to the relational “ingenuity” of non-modern worlds, both extinct and extant, for guidance about how to live more sustainably. At the same time, it would support the cause of bioregional “localization” over any one-size-fits-all globalization.

Which of these two stories do you find more meaningful and/or more useful?

Endnotes

1. Of course, an adequate case for a radical “many worlds” historical practice cannot be made in a short essay. A fuller case is made in Greg Anderson, *The Realness of Things Past* (New York: Oxford University Press, 2018).
2. For a brief bibliography of works that are broadly aligned with the ideas presented here, see <https://drive.google.com/file/d/1hVa2w-0bTWFSJI7Use3ujmKZHT2AzOq7/view?usp=sharing>.

About the Author



Greg Anderson is Professor of History at Ohio State University. His teaching and research combine interests in historical thought and practice, contemporary critical theory, and the experiences of non-modern peoples. In his book *The Realness of Things Past: Ancient Greece and Ontological History*, he makes the case for a radical new paradigm of historical practice, one which recognizes that humans have lived in a pluriverse of many different worlds, not in a universe of just one. This paradigm shift has far-reaching implications for how we think about relations between humans and non-humans in all times and places, which he explores in his current book project *Across the Pluriverse: Sustainable Worlds of the Past, Present, and Future*. He holds a PhD in classics from Yale University.



Linking Micro and Macro

Diana Coole

Suggestions for a bigger, more capacious history than the familiar—Eurocentric/human-focused/ relatively recent—narratives that pass for History are surely to be welcomed, given the existential risk confronting every living being on Earth and the benefits of an overview of how we got here. This is helpful because it is not only living beings that are at risk. Degradation of the inorganic fabric of the planet and its atmosphere is also a component of systemic collapse. While the sources of impending catastrophe (and any viable solution to it) are rightly laid at the door of human agency—in particular, of modern Westernized humans since the Industrial Revolution—and catalogued by changes associated with the Anthropocene, it is therefore helpful to situate more recent changes within wider and longer contexts, as practiced by Big History. From this perspective, the inclusion of biology and geology as vital elements of the historical record can only add to a common appreciation of the enormous challenges we collectively face.

That said, it seems to me that the concept of a “Big” History, with its connotations of a very grand, very general, narrative may not do justice to what is required. If such a History is to be more than a story of cosmic origins and, in essence, an account of pre-history as constructed by scientists, then—and this is the main point I want to make—it needs to be supplemented and enriched by fine-grained, detailed analyses of the organic and inorganic chains it identifies, including the ways they have become enmeshed within geopolitics and political economy.

Specifically, what I mean by this is that while Deep (geological) Time and cosmic/evolutionary processes might appear to be a good way to tell an impartial tale in which everyone is invested, as soon as this Big History touches on the present (as it surely must, since climate change and mass extinction are the denouement of the story, even perhaps the final act of the drama), it needs to relate its vaster spatio-temporal and geo-bio accounts to more contemporary

distributions of power and behavior. The insight of Big History is that without its bigger perspective, the latter remain too superficial and divisive, too short-term, to galvanize sufficiently radical and cooperative responses. This adds a valuable dimension to our understanding of the crisis at hand. Yet it is within the messy, nitty-gritted processes of decimation that remedial action is required, and this suggests that a more micro-approach needs also to accompany, and to be woven into, the macro-account.

What would this mean in practice? Many examples already exist in Science and Technology Studies (STS) and in methodologies working under the aegis of the New Materialism. Sometimes influenced by such thinkers as Michel Foucault or Giorgio Agamben, the approach I am suggesting might select some crucial element—carbon, say, or even a crop like the tomato—then trace its complex geo-bio itinerary within long-term ecosystems. But this should also include more recent conduits and switching points, interests, and blockages that complicate the narrative by adding shifting geopolitical distributions of power and economic interests that exploit, commodify, and trade natural resources. By following the intricate micro-flows of matter in this way, the insights of Big History can also accommodate myriad tiny histories, the aim being to discover points of leverage and the ways shifting power relations have become inseparable from the very structures of life and of the planet.

One advantage of this approach is that it shows how, over time, human agents have become more involved in the histories of the biotic and abiotic dimensions. But also how humans, in turn, have been affected by efficacious nonhuman entities that push back, influence, and repel or encourage courses of social action. In other words, as the processes documented by Big History approach the conventional historical world, the integration of macro and micro studies, as well as the inclusion of both human and nonhuman agency (as ineluctably entangled), become more dialectical and more capacious in their appreciation of agentic capacities. This certainly yields a very big history, but also a very complex and dynamic one that avoids human-centrism without ignoring humans' responsibilities for and to the environment and its transition.

As highlighted by David Christian's essay, humanity's first glimpse of the Blue Planet from space still marks a seminal moment in our appreciation of the beautiful yet fragile world we share as our common home. However, while it remains a beguiling and influential image, is

the implication that we might only recognize our shared interests and plight from some extra-terrestrial viewing platform, and that this entails a bird's eye view hovering above the messy differentiations apparent to anyone actually inhabiting the planet, not problematic?

Science helps (within its own terms) to construct an objective account of our cosmic origins and their evolution; it thereby extends our understanding of the complicated and interrelated processes in which we have meddled at our peril and of their chemical and physical properties. It implies humility and a sense of perspective, given how late on human beings—and, in particular, the modern industrial societies that have wrought such environmental havoc—have appeared. Perhaps this can provoke a more cooperative response to the bigger story of our common legacy and the habitation of shared space. But inasmuch as our ecologically disastrous societies are the culmination of billions of years of evolution, it is here that we need to find the motivation and solutions to avoid existential collapse. And this, however unpalatable, does mean cycling our dense and variegated histories of organic and inorganic processes through more contemporary circuits of power, market relations, shifting demographics, special interests, entrenched identities, diverse cultural commitments, and so on. Because it is ultimately out of this variegated and confused milieu that the cooperation and mutual understanding necessary for enacting a Great Transition will have to be forged.

In conclusion, briefly: Big History, yes! But one that includes all the material density, complexity, and flows of the present, and one that also recognizes the contribution and inseparability of both human and nonhuman, social and geological-biological, elements in weaving a viable future. This will rely on numerous local, diverse micro-contributions, as well as on the planetary-wide cooperation-coordination and the mutual understanding of the immediacy of our plight that Big History hopes to inspire.

About the Author



Diana Coole is Professor Emerita of Political and Social Theory at Birkbeck University of London. She is the author of several articles and books, including *Women in Political Theory: From Ancient Misogyny to Contemporary Feminism* and *Negativity and Politics: Dionysus and Dialectics from Kant to Poststructuralism*.



Big Impacts of Small Inspirations

John de Graaf

The subject of Big History is, unfortunately, too big and too abstract to be very useful as we look for solutions to our modern social and environmental dilemmas. Instead, I would argue for a much more specific look at history and a more recent period of time as the basis for the most fruitful inquiry.

Marvin Harris, with his materialist anthropology, showed that the cultural practices of peoples were in response to their conditions of life. When the buffalo—or the mammoths and mastodons—were vastly abundant, indigenous peoples killed them almost as indiscriminately as Buffalo Bill and his kind, driving hundreds over cliffs to die and consuming only a small portion of their meat or hides or bones. They learned to think of the seventh generation when scarcity demanded it and the great herds were gone. They killed few species because their numbers were small—in general, they were not overpopulated as we are—and their weapons weak by comparison to the guns the Europeans brought here. But indeed, they learned—as we must, and in quite specific ways, to respond to their actual changing conditions, not as a result of the grand theories of their priests and chiefs.

The principle of Occam's Razor suggests that we consider the simplest answer to a problem as most likely to bear fruit. Hence, I want to suggest that most of our rampant materialism, which, without question, is changing the climate and destroying the biosphere, doesn't really come from "the patriarchy" or some grand "Western modern/technological/industrial civilization" or a will to dominance, but more likely from our common desires for convenience, and the fact that our society makes it so easy to consume.

Some may seek the megalomania that money offers—e.g., Donald Trump—most of us are simply looking for easy ways to satiate our basic and baser desires, and avoid working too hard at repetitious tasks. We choose cars over walking or public transit because they are often more convenient (easy) for most of us, not because we are primarily seeking power or prestige. I know almost no one who bought a car for those reasons rather than price or safety or some similar factor. And, I would argue, we are looking for a bit of beauty and novelty in our lives. Yet our system makes it possible for some to accumulate vast wealth while others must work longer and harder, and in more grim circumstances. So for the poor, the car becomes more necessary and less fun.

None of this is helped by population growth, as we saw in an earlier GTI discussion. Just as a growing population and a shrinking resource base drove the once peaceful Pueblos to internecine warfare and toppled civilizations from the Middle East to Mayan Mexico, so does ours lead to crowding and the loss of desirable positional goods like beachfronts, lakeshores, and the like (and to biodiversity) to fierce competition over land, driving up costs and shedding our “lumpen” into the mean streets and tragic encampments. The vast inequalities of wealth do this too, of course, but so does crowding and the depletion of resources by rich and (in rich countries) poor also. It is the wish for convenience that cause our masses to rise up angry every time the price of gas goes up while ignoring climate change (at least until it, too, seriously inconveniences them).

So what can be done? I would suggest we spend less time on “big” histories and more on the little histories that have actually made a difference. I think that the real benefits of nature and the appeal of natural beauty are a starting point that can appeal across class, race, gender, and nationalistic lines. More green space, more encouragement of children to put down the devices and play outside, more attention to the beauty in life that can make us pause in wonder and awe, slow down, and reflect on our glorious world.

We have sufficient evidence that these things can improve both our health and happiness and make us kinder to each other. An experiment in Philadelphia found that simply cleaning up garbage and squalor and replacing it with parks and gardens brought a sharp increase in

happiness, lowered crime and homicide rates, reduced fear to venture outside and mental illness, and led people to trust each other and work together.

As we look forward, I would suggest we study the amazing steps forward we made environmentally in the 1960s and 70s, the era I examine in my new film, *Stewart Udall: The Politics of Beauty*. We can learn the specific strategies that led us to cleaner air and water, slowed the use of deadly chemicals—leading to amazing comebacks by bald eagles, pelicans, and other birds—protected large swaths of wilderness, public land, shorelines, and scenic treasures. We can learn, too, the mistakes we made then—the Interstate Highway System, the big dams, the destruction of passenger rail as the car became King. We can learn that in addition to protest marches, it was the slow, patient work of legislation by people like Udall that helped pass on to us much that makes our lives worth living.

As for “big” history, I suggest we look at the miracle of evolution that gave us so compelling (and surprisingly universal) a sense of beauty. Our genes learned that such beauty was life-affirming, and we have come to feel genetically that wounds on the earth—oil spills, strip mines, garbage dumps, etc.—are like wounds to our own flesh.

Love of natural beauty compels us to a more caring ethic in a way that grand abstractions never will.

About the Author



John de Graaf is a filmmaker, the author of three books, and an environmental activist. He has produced several films about sustainable agriculture and about the perils of overconsumption. His latest film is *Stewart Udall and the Politics of Beauty*.



Through-Lines of Domination

Riane Eisler

In his opening essay, David Christian emphasizes the power and importance of a shared story for humanity. Indeed, a new story about our past and present is fundamental to building a better future. Key to this is an interdisciplinary analysis of *human nature* and *human cultural possibilities*. This piece starts with the first and then focuses on the second.

Findings—largely overlooked—from the natural and social sciences debunk the popular story that we are hard-wired for selfishness, war, rape, and greed. Neuroscience shows that our brain circuits, and therefore how we think, feel, and act—including how we vote—are strongly shaped by our environments, which for humans are primarily our surrounding cultures as mediated by families, education, religion, politics, and economics. Our large-brained species is flexible: we are equipped for destructiveness and creativity, rote conformity and independence, cruelty and caring. Which capacities are expressed, or inhibited, largely depends on the degree to which a culture or sub-culture orients to either end of the partnership-domination social scale.

Domination systems produce high levels of stress and fear—from stressful early family experiences to the artificial creation of economic scarcity. Partnership environments enhance the expression of the capacities needed for a more humane and sustainable future: our human capacities for caring, consciousness, and creativity.¹

The first step is going beyond familiar social categories—ancient/modern, right/left, religious/secular, Eastern/Western, Southern/Northern, industrial/pre- or post-industrial. There have been authoritarian, violent, unjust societies in every conventional category, so none tells us how to build a better future. Moreover, these categories ignore or marginalize parent-child and gender relations—even though neuroscience shows that early experiences and observations profoundly affect how our brains develop, and therefore what people consider normal and moral.

The *partnership system* and the *domination system* show the key role these foundational human relations play in whether a society is more just or unjust, is more peaceful or violent, protects human rights or considers chronic human rights violations normal and moral.

Authoritarian, repressive, violent societies—whether old, like Assyria, Imperial China, or the European Middle Ages; modern, like Hitler’s rightist Germany or Stalin’s leftist former USSR; or religious like Khomeini’s Iran, the Taliban, and the US “rightist-fundamentalist alliance”—share the domination system’s configuration.

First, all institutions, from the family to religion, economics, and politics, have authoritarian, top-down structures. Second, the male human form is ranked over the female form, with a *gendered system of values* in which anything associated with masculinity in domination systems (e.g., conquest, winning, violence) is superior to the stereotypically feminine (e.g., nonviolence, caring, caregiving). Third, abuse and violence are built into domination systems (from child-and-wife-beating to aggressive warfare, from torture and witch-burnings to pogroms and lynchings)—as required to maintain in-group versus out-group thinking and rigid top-down rankings of man over man, man over woman, race over race, religion over religion, and nation over nation.²

Societies orienting to the partnership system’s configuration also transcend familiar categories. They can be technologically undeveloped foraging societies going back millennia, as shown by anthropologist Douglas Fry and others; egalitarian prehistoric farming cultures like Catal Huyuk, where archeology shows no signs of destruction though warfare for a thousand years or inequality between women and men; technologically advanced “high civilizations” like Minoan Crete, with its generally high living standard and no signs of warfare between the island’s city-states, where women played leading roles; or modern societies like Finland and Norway.³

Partnership-oriented societies have the following configuration. First, both families and tribes or nations are more democratic and egalitarian. There are still parents, teachers, managers, and leaders, but they have *hierarchies of actualization* in which accountability, respect, and benefits flow both ways, rather than just from the bottom up, and power is empowering, rather than disempowering, as in *hierarchies of domination*. Second, the female and male forms of humanity are equally valued, and qualities like nonviolence and care are valued in women, men, and social

and economic policy. Third, while there is some abuse and violence, they are not built into institutions as they are not required to maintain rankings of domination.

Over the last centuries, modern progressive social movements have challenged entrenched traditions of domination—the eighteenth-century “rights of man” movement challenging the “divinely ordained” right of kings to rule; the nineteenth- and twentieth-century abolitionist, civil rights, and anti-colonial movements challenging the “divinely ordained” right of a “superior” race to rule over “inferior” ones; the feminist movement challenging the “divinely ordained” right of men to rule women and children in the “castles” of their homes; and today’s environmental movement, challenging the once-hallowed conquest and domination of nature.

Yet our forward movement has not been linear but upward with dips: fiercely resisted every inch of the way and punctuated by global regressions to domination. A major reason for these regressions is that most progressive movements have only focused on dismantling the top of the domination pyramid: politics and economics as conventionally defined. By contrast, those pushing us back to strongman rule, violence, and in-group vs. out-group scapegoating invest enormous resources in maintaining or reinstating domination in four interconnected cornerstones for either partnership- or domination-oriented systems.

These cornerstones are *family and childhood relations* (e.g., appropriating family, values, and morality), *gender roles and relations* (e.g., demonizing gender role fluidity), economics (e.g., promoting trickle-down economics and devaluing caring, which they code “feminine”), and narratives and language that justify top-down control (e.g., that fathers are “masters of the house”).

Vladimir Putin, who barbarically invaded Ukraine, reduced the legal penalty for family violence several years prior in 2018, so in Russia the consequences for hurting or killing a stranger exceed those for killing or hurting a family member. He and other “strongmen” recognize the connection between an authoritarian, male-dominated, punitive family that uses violence for control and his authoritarian, male-dominated, violently punitive state.

In sum, those pushing us back globally pay particular attention to maintaining or reinstating traditions of domination in our family relations, gender relations, economics, and stories/

language. Progressives need a whole-systems agenda based on a partnership-oriented narrative of our past, present, and the possibilities for our future that no longer marginalizes the majority of humanity—women and children—to counter regressions to domination worldwide and build a more equitable, sustainable, and caring socioeconomic partnership system.

Endnotes

1. Riane Eisler and Douglas Fry, *Nurturing Our Humanity: How Domination and Partnership Shape Our Brains, Lives, and Future* (London: Oxford University Press, 2019).
2. Riane Eisler, *The Real Wealth of Nations: Creating a Caring Economics* (San Francisco: Berrett-Kohler, 2007); *The Chalice and the Blade: Our History, Our Future* (New York: Harper Collins, 1987, 2017).
3. Douglas Fry, ed., *War, Peace, and Human Nature: The Convergence of Evolutionary and Cultural Views* (London: Oxford University Press, 2013); Ian Hodder, “Women and Men at Catalhoyuk” *Scientific American* (January 2004): 77–83.

About the Author



Riane Eisler is President of the Center for Partnership Systems and Editor-in-Chief of the *Interdisciplinary Journal of Partnership Studies*. Internationally known as a systems scientist, conference keynoter, consultant, and attorney working for the human rights of women and children, she is the author of groundbreaking books such as *The Chalice and the Blade: Our History, Our Future*; *The Real Wealth of Nations: Creating a Caring Economics*; and *Nurturing Our Humanity: How Domination and Partnership Shape Our Brains, Lives, and Future*. She holds a JD from the University of California, Los Angeles. In recognition of her work for a more equitable, peaceful, and sustainable future, she has received honorary PhDs and peace, humanitarian, and human rights awards.



Action vs. Abstraction

Richard Falk

My Skeptical Premise

I find myself fascinated by the explorations and exposition of Big History, helpful for a deeper, more vibrant metanarrative of self-understanding. And yet I also find it fundamentally irrelevant, and even delusional, when it comes to addressing meaningfully what is agreed to be a historical condition of unprecedented global crisis threatening near-term civilizational and ecological viability, imperiling even the survival of living species, including the human. Putting my skepticism in its simplest form, “we do not have time” to make Big History work in favor of a livable future, and it serves as an indulgent distraction as so presented. That is not to say that Big History may not have immediate pedagogic benefits by enriching education, allowing students and readers of all ages to grasp better how the profound predicaments of the present came about and what might be done to reach a more elevated stage of human evolution. The mistake of Big History advocates is to suppose that transformational thinking by a few people, even if situated on a geo-civilizational terrain, will have a sufficient impact to exert an emergent influence on a policy level within time horizons relevant to meeting the fundamental concerns associated with climate change, weaponry of mass destruction, corporate plunder, destructive forms of inequality, political extremism, mass alienation, conspiratorial myth-making, and transnational crime.

David Christian attaches great historical weight to the reaction of the astronauts who conveyed back home the images of Planet Earth as seen from the moon, regarding it as a Big History event in real time that imparted lasting meaning to how we act as humans on a shared planet and inspired a sense of oneness that will facilitate a transition from conflict to cooperation as the dominant pattern of collective behavior. In Christian’s words, “Whatever form it takes,

a more expansive and interdisciplinary perspective on today's world can galvanize the Great Transition by reorienting the thinking, attitudes, and motivations of billions of people." Perhaps it is doing so. It has been more than fifty years since Neil Armstrong sent his famous message from the moon: "One small step for a man, one giant leap for mankind." Putting to one side the discrediting reliance on patriarchal language, the dysfunctional behavior patterns of earthlings has gotten worse since that hopeful view was articulated. Due to the material structures of wealth and power, and state-centric world order, annual military expenditures (including of heavy investments in the militarization of space) exceed by multiples the devotion of resources to achieve a cooperative approach to global-scale problem-solving. Leadership in political and economic domains continues to be assessed by short-term performance seen as beneficial to distinct nations, while most corporate behavior continues to exhibit scant concern for the worsening threats directed at the future of humanity.

Transforming the War Mentality

Big History, by its focus on underlying patterns and deep structures of evolution, is turning away from the challenges of immediacy and overlooking the resilience of geopolitical ambitions that manifest themselves through conflictual behavior that continues to dominate the political imaginaries of those running the world, as well as supportive elites who benefit from existing circumstances and bureaucrats who manage the structures of governance at every level of social interaction. Big History esoterically marginalizes or renders as harmless geological, cosmic, or evolutionary abstraction the dismaying reality that the most impressive cooperative behaviors on the planet are taken against rivals or enemies, often framed as an alliance, and preoccupied with the preparation for and conduct of warfare. It is only after the carnage produced by the world wars of the past century that cooperation for peace by way of international law and institutionalized multilateralism (UN) gained prominence on the policy agenda of world leaders.

It may seem irreverent to conclude that science fiction writers are more relevant explorers of human nature and plausible alternative ways of living together as a species, than are the leading lights of Big History. Sci-fi imaginatively explores the idea that the most effective way to gain planetary unity and the ultra-cooperative problem-solving capabilities that are needed, would be to invent a belligerent planetary neighbor in the galaxy allegedly gearing up for an aggressive

war against Planet Earth. Putting in a good word for “conspiracy theorists,” even if such a scenario of a galactic neighbor intent on planetary aggression was entirely made up, if widely disseminated and believed by “the right people,” it could create a political atmosphere conducive to the emergence of a widespread willingness to cooperate against a common enemy perceived as a dire threat to the whole world. Such a fictitious account of reality draws on the competence and experience of the leading intelligence agencies in the world and the main media platforms to spread such a *great white lie*.

The Quest for Hope in a Dark Time

In the background of this speculation is the implicit recognition that the war template is so deeply embodied in the political and cultural psyche of humanity as itself to provide ironically the only ready-made exit from catastrophic future being generated by the unsustainable and abusive ways that humans were living on the earth. Unlike postwar escalations of cooperative behavior, looming ecological disasters may become irreversible tragedies long prior to their systemic damage.

In other words, even when we look at emergent signs of transformed modes of behavior that is indispensable if humanity is to act on behalf of Great Transition visions, the future looks bleak, but I would argue not as bleak as the future conceived from the perspective of Big History. These more entrenched, emergent liberating paths of behavior are more resonant with human experience, and can plausibly be converted into political projects with some traction if activist segments of civil society can be enlisted in this struggle for the material and spiritual future of humanity. Such action would still involve an epistemological humility about the future, allowing the realities of radical uncertainty to create space for what I have called “a politics of impossibility,” which rests on struggling for a cooperative and just future by confronting militarism and predatory economic behavior. Such a posture admits both that the prospect of achieving emancipatory goals cannot be discerned from the standpoint of the present, tempered by the awareness that the future is unknowable and hence uncertain, and yet there are instances throughout history where “impossible” goals were achieved. Recent examples include the struggle against South African apartheid that seemed hopeless until it wasn’t or the implosion of the Soviet Union that ended the Cold War. Both examples of essentially nonviolent

struggles that created unexpected opportunities for a brighter future.

My purpose in this brief essay is in no way to question the illuminations of Big History as exemplified by the stimulating contributions to this themed discussion. What I doubt is the usefulness of such inquiries for what I understand to be the mission of the GTI, which is to be taken seriously at the level of *policy* as well as *ideas*. To do this effectively, constructive thought and scholarly endeavor have to engage directly with the urgencies currently in evidence, and do so in the spirit of the Anthropocene, which provides a grand occasion for human responsibility and opportunity.

About the Author



Richard Falk is Albert G. Milbank Professor Emeritus of International Law at Princeton University, Fellow of the Orfalea Center of Global Studies at the University of California, Santa Barbara, and Associate Fellow at Tellus Institute. He directs the project on Global Climate Change, Human Security, and Democracy at UCSB and formerly served as director of the North American group of the World Order Models Project and the UN Special Rapporteur on Human Rights in Occupied Palestine. He is the author of such books as *Power Shift: On the New Global Order*; *(Re)Imagining Humane Global Governance*; *Religion and Humane Global Governance*; and *Explorations at the Edge of Time*. He holds an SJD from Harvard University.



Diverse Ways of Knowing

Kathleen Kesson

In graduate school in the 1980s, I was fortunate to land with an academic adviser who had a keen interest in the “new sciences.” We set up an interdisciplinary Institute for the Study of Alternative Paradigms in Education, attracting a group of science and humanities scholars with a shared interest in figuring out how the stories coming to us from quantum mechanics, chaos theory, the new biology, and other emerging ideas might inform our disparate research epistemologies and fields of practice. An intrepid explorer of the inner world and an unrepentant mystic, I had stumbled upon Fritjof Capra’s *Tao of Physics* and Gary Zukav’s *The Dancing Wu Li Masters* and awakened to the notion that the study of science might hold something for me after all, having had nothing but dismal and uninspired chemistry classes in my youth.

Under the influence of Max Weber’s assertion that the Enlightenment, with its laser focus on empiricism and logic, had brought about the “disenchantment” of the world—the loss of magic, mystery, and creative connections that had given rise to the rapacious exploitation of nature for human ends—I read a number of books with “re-enchantment” in their titles: *The Reenchantment of the World* (Morris Berman), *The Reenchantment of Art* (Suzi Gablik), and *The Reenchantment of Science* (David Ray Griffin). To Suzi Gablik, the task of the “re-enchantment project” was “to cease to be hypnotized by the rational bias of Western society, through developing a more open model of the psyche, so that as a culture we can recover the ability to ‘dream forward’ and recover the power and importance of vision.”¹

The number of books on reenchantment outpaced my literary binge, but I became convinced that we moderns must find our way into what Helena Norberg-Hodge aptly terms our *ancient futures*, futures that do not discard the inquiry, reason, and logic that has made modern life reasonably comfortable for many, but futures capacious enough for the reanimation of the

sensory world and a relational ontology that is *organismic* (an understanding of the planet as a living organism) rather than *mechanistic* (a view that “denies to nature any purpose, capacity for self-movement, or interiority”).² Futures which overcome the dualisms that have shaped modern education and, hence, consciousness. Futures that summon up the wonder, wisdom, reverence, and awe in our ancestral histories, which, in the wide scale of time, constitute the greater part of our Big History.

The great discovery of contemporary science, say Brian Swimme and Mary Evelyn Tucker, “is that the universe is not simply a place, but a story—a story in which we are immersed, to which we belong, and out of which we arose.”³ They and their colleagues who consider themselves “postmodern cosmologists” articulate a new story emerging from science itself, drawn from the descriptions of matter generated by quantum physics, from the power of cosmological observations enabled by advanced telescopes, and from the intricacies of the plant world revealed by the electron microscope and time lapse photography. Yet, even the postmodern cosmologists take us only to the infinitesimal dot, the nucleus of the Big Bang, and hesitate to step into the chasm of First Causes—understandably so, as the notion of an initial creative force can be a slippery slope into dogma and doctrine. It is enough, we must assume, to acknowledge our common source in the “great flaring forth of light and matter” from which all life forms eventually emerged.⁴

I find the Tantrik Cycle of Creation *mythos* (Brahmacakra) to most closely meet my own criteria (albeit speculative) for “awakened rationality”—a form of rationality that does not exclude intuitive discernment.⁵ In this narrative, Pure Consciousness exists in a state of equilibrium, containing within it an infinite, immanent creative power. When the creative force manifests itself, the cosmic cycle is initiated, and everything—“galaxies, stars, planets, rocks, bacteria, plants, animals, and human beings”—evolves and exists in various states of vibrational frequency as a thought projection of the Cosmic Mind.⁶ Not only does this particular *mythos* embrace the modern evolutionary synthesis, it is consistent with emergent explanations of the universe as a self-organizing, intelligent system (or system of systems). What sets Brahmacakra apart from most scientific explanations is the cyclical evolution of Mind, the notion that there is a “return of individual minds to that same state of Pure Consciousness after further evolutionary development of those individual minds.” Language fails us in attempts to describe Pure

Consciousness, though it is said to be a state of infinite bliss beyond the individual mind; its existence is inferred by reports of the waves of bliss experienced by meditators when “having merged one’s mind into that state, one later regains one’s individual mind and is again capable of mental experience.” Hence, the disciplines of Yoga (from Sanskrit *yoga-s*, literally “to yoke,” or “union”) signifying the aim of uniting body, mind, and spirit.

To circle back to my inquiries into educational paradigms begun almost forty years ago, how might this vitalized “new story” of the universe, a cosmology that integrates both rational and contemplative ways of knowing, and that embodies a truly Big History of the universe and our place in it, find its way into education? We must begin with ontology, and a shift from perceiving the human being as an isolated individual, separate from the rest of creation whose destiny is to manipulate, control, and predict nature to one who is deeply connected with the “pluriverse” of beings—plants, animals, and animate and inanimate matter. Also at the center of the educational principles that flow from such a “neohumanist” perspective is the notion of “epistemological pluralism,” which requires that we look beyond the contributions of modern Western-trained scientists to Indigenous people and others who have lived in harmony with their biosystems, for forms of knowledge such as traditional ecological knowledge, intergenerational knowledge, ancestral wisdom and mythic insights, narrative knowing, embodied and intuitional knowing, a spectrum of the ways of knowing that have been marginalized under the regime of a modernity governed by capitalism and colonialism. Recognition of the necessary ontological and epistemological shifts, and their extraordinary implications for basically everything we think we know about the education of young people, is necessary, I believe, to the project of cultivating our “big history” and effecting a “great transition.”

Endnotes

1. Suzi Gablik, *The Reenchantment of Art* (New York: Thames and Hudson, 1995), 48.
2. John Cobb as quoted in David Ray Griffin, ed., *The Reenchantment of Science* (Albany: The State University of New York Press, 1988), 103.
3. Brian Swimme and Mary Evelyn Tucker, *Journey of the Universe* (New Haven, CT: Yale University Press, 2011), 2.
4. Ibid., 5.
5. P. R. Sarkar, *The Liberation of Intellect – Neohumanism* (Calcutta: A'nanda Marga Pracāraka, 1982).
6. Acharya Ratnesh, *Microvita: The Cosmic Seeds of Life* (Mainz, Germany: Dharma Verlag, 1989), 21.

About the Author



Kathleen Kesson is Professor Emerita of Teaching, Learning and Leadership in the School of Education at Long Island University Brooklyn. She is the former Director of Teacher Education at Goddard College and was the founding Director of the John Dewey Project on Progressive Education at the University of Vermont. She has published numerous books and articles on democracy and education, curriculum, critical theory, and spirituality and education. She is currently a Global Affiliate with the GUND Institute for Environment at the University of Vermont, and deeply engaged with statewide efforts to promote school/community partnerships around a “just transition.” Her next book is tentatively titled *Neohumanist Education: Theory and Practice for the Anthropocene*. She holds a doctorate in education from Oklahoma State University.



Escaping Modernism

Jeremy Lent

As someone who has researched and written extensively about the deep underlying structures of human cognition that have shaped history, I felt naturally aligned with the Big History movement from its outset. Since that time, I have spoken at several of their conferences, and was gratified to see my book *The Patterning Instinct: A Cultural History of Humanity's Search for Meaning*, featured and reviewed in their newsletter.

However, in recent years, I have found my interest in the Big History movement waning, as my attention focused increasingly on the deep sociocultural changes needed to avert the looming catastrophe toward which our civilization is currently careening. Why is that?

I think the root of this disaffection has to do with the underlying modernist epistemological framework in which David Christian and the Big History movement appear to be trapped—perhaps without even realizing it. As I trace in *The Patterning Instinct*, each culture constructs its worldview on a root metaphor of the universe, which in turn defines people's relationship to nature and each other, ultimately leading to a set of values that directs how that culture behaves. We tend to assume that our worldview simply describes the world the way it is—rather than recognizing that it is a constructed lens that shapes our thoughts and ideas into certain preconditioned patterns. That is what makes worldviews so powerful as drivers of our collective behavior.

Early hunter-gatherers, for example, understood nature as a “giving parent,” seeing themselves as part of a large extended family, intrinsically connected with the spirits of the natural world around them. When agriculture first emerged about twelve thousand years ago, new social phenomena such as property, hierarchy, and wealth appeared, leading early civilizations to

form a new root metaphor of the universe as a “hierarchy of gods” who required propitiation through worship, ritual, and sacrifice.

As a rule, culturally derived values emerging from given worldviews have played a large part in shaping history—and by the same token, the future will be shaped to a great extent by the underlying values of our dominant culture, arising from the modern worldview.

This worldview emerged in seventeenth-century Europe with the Scientific Revolution, which laid the cognitive foundation for the world we are living in today. It has accomplished a lot. It wrested intellectual control from the superstitions of traditional Christian theology and set the groundwork for modern science—one of humanity’s greatest achievements. But it has also been an underlying cause of the horrendous devastation suffered by non-European peoples and cultures, and boundless destruction of the natural world. The fundamental flaws in its construction have now become so gaping that they threaten the very survival of our civilization—and much of the living Earth.

Distilled to its essence, the modern worldview is based on a core mechanistic metaphor of nature and an ontology of separation. Its basic building blocks arise from that ontology and may be roughly summarized as follows: “Humans are selfish individuals. All creatures are selfish—in fact, selfish genes are the driving force of evolution. Nature is just a very complex machine, and human ingenuity has, for the most part, figured out how it works. The modern world is the spectacular result of technology enabled by the market forces of capitalism, and in spite of occasional setbacks, it is continually improving. There may be problems, such as global poverty or climate change, but technology, powered by the market, will solve them—just as it always has in the past.”

In fact, each of those building blocks has been shown by modern science to be flawed. The depiction of humans as selfish individuals, the view of nature as a resource to be exploited, and the idea that technology alone can fix our biggest problems are all profound misconceptions that have collectively led our civilization down an accelerating path to disaster. The only way we can truly change our trajectory is by approaching society’s problems from the foundation of an alternative worldview—one that affirms life, rather than the accumulation of wealth above all else.

Big History, however, seems to have chosen to reside in the ontological domain of modernism; as a result, it sees itself as detached from the very processes it purports to study. Perhaps this is out of deference to funders and proponents like Bill Gates, or perhaps from a deeper desire to be fully embraced by the mainstream academy, and therefore to avoid any value orientation that may undermine its presumed objectivity.

The study of society as a complex system, however, cannot be divorced from a value stance. While Big History embraces a systems-based understanding of evolutionary change, it has appeared less willing to follow some of the ontological implications of systems thinking, which erode the sacrosanct distinction between the observer and observed that allows scientists to claim their methodology is “value-free.”

In recent decades, systems thinkers in multiple scientific disciplines have overturned this notion of pristine scientific objectivity. Recognizing nature as a dynamic, self-organized fractal complex of nonlinear systems, which can only be truly understood in terms of how each part relates to each other and the whole, they have shown how these principles apply, not just to the natural world, but also our own human social systems. A crucial implication is that the observer is part of what is being observed, with the result that the observer’s conclusions and ensuing actions feed back into the very system being investigated.

This insight holds important ethical implications for how we approach the great problems facing humanity. Once you recognize that you are part of the system you are analyzing, there is a moral imperative to act on your findings, and to raise awareness of others regarding their own intrinsic responsibilities. The future is not a spectator sport—in fact, every one of us is on the team and can make a difference in the outcome.

This is where I believe Big History may part company with the urgent imperative felt by those of us working on catalyzing deep systemic transformation. At this point, global norms need to shift to a worldview arising from a recognition of our deep interconnectedness with each other and all aspects of the universe, one that exalts the primacy of life through its entire value system. This alternative worldview already exists—it has been constructed over millennia by wisdom traditions around the world and is soundly validated by the findings of modern science—but it has not yet achieved widespread adoption.

If humanity makes it through the cataclysms of this century with an intact civilization, it will likely be because enough people, seeing the bankruptcy of the current worldview, have reoriented their value system toward that life-affirming worldview. It would be wonderful if Big History could play a part in this transformation, but to do so, its proponents may first need to reevaluate some of their own ontological moorings.

About the Author



Jeremy Lent is an author and speaker whose work investigates the underlying causes of our civilization's existential crisis and explores pathways toward a life-affirming future. His award-winning books, *The Patterning Instinct: A Cultural History of Humanity's Search for Meaning* and *The Web of Meaning: Integrating Science and Traditional Wisdom to Find Our Place in the Universe*, trace the historical underpinnings and flaws of the dominant worldview, and offer a foundation for an integrative worldview that could lead humanity to a flourishing future. He is founder of the Deep Transformation Network, an online global community devoted to facilitating a deep transformation toward a life-affirming future on a regenerated Earth.



Logics of the Human Story

Evelin Lindner

I have dedicated my entire life work to forging narratives that capture the past in ways that open dignifying horizons for the future, as Big History does. Having lived on all continents for the past decades, I can attest that people everywhere crave narratives that anchor them in the world. Religion often provides such narratives, as do family legends or clan and national myths. Such narratives are sometimes so important that people are willing to die for them.

Modern secular Western science does not usually provide equivalent long-term explanations of life's meanings. Physicists have several narratives on offer, as they are still looking for a grand unifying narrative (unifying theory) that connects their subnarratives (theories of subsets of forces). Social scientists on their part wrestle with other uncertainties, for example, whether "man" is aggressive by nature or not, a question that holds great importance as we begin to realize our responsibility for managing our home planet.

So far, emotionally engaging and globally unifying and dignifying narratives are lacking. Through my work, I try to formulate such a narrative, one that draws on new scientific findings and at the same time not only describes the past but also offers a dignifying compass into the future.

Four Logics and Three Eras

I suggest a metanarrative of four basic logics at the core of the human condition to help understand *Homo sapiens'* history and to find a way into the future: the *pie of resources*, the *security dilemma*, the *future time horizon*, and *social identity*.¹ We can trace these logics through the three major eras of human existence: a) the *era of pristine pride*, b) the *era of honor*, and c) the *era of equal dignity in solidarity*.²

- The first logic addresses the question as to whether and to what extent the *pie of resources* is expandable. Game theory is relevant here, as developed within the discipline of philosophy.
- The second logic concerns the *security dilemma* and whether it is weaker or stronger, drawing on international relations theory, as developed in the field of political science.
- The third logic asks whether a long-term or a short-term future time horizon dominates, as described in many academic disciplines, e.g., cross-cultural psychology. The Indigenous seven-generation sustainability rule is an important example.
- The fourth logic concerns the human capacity to tighten or loosen identifications, drawing on social identity theory, as developed in social psychology. This logic sees emotions as history- and culture-dependent phenomena and addresses how psychological mindsets such as pride, honor, *dignity*, *humiliation*, and *humility* inspire narratives—be they narratives of dignity that foster peaceful unity in diversity or narratives of humiliation that justify belligerent divisions without unity.

Most importantly, the fourth logic issues the alert that the human rights ideal of equal dignity for all (in contrast to unequal honor for all) introduces a new form of humiliation, namely, *dignity humiliation*, which is more hurtful than *honor humiliation* and thus can create fault lines of polarization and confrontation that are unprecedented and have the power to undermine, obliterate, and malign the most benign processes.³

If we inscribe these four logics into the chronology of human history on Planet Earth, then we can hypothesize that for the longest period of our history, roughly until the so-called Neolithic Revolution, our forebears enjoyed pristine pride in small egalitarian groups that followed wild food that was abundant and represented an expandable pie of resources for them. Then came the Neolithic Revolution, the time when our species had completed what we could call the first round of globalization (*Homo sapiens* had populated all continents). In a rather brief historical timespan, resources that previously seemed abundant became bounded, a win-win situation turned into a win-lose situation, and circumscription spawned the security dilemma and the commons dilemma. Our forebears responded with a new ethos and emotional coinage, and the era of honor began, which legitimized the vertical ranking of human worth into “higher” and

“lesser” beings. Presently, we are participating in yet another radical shift, with the adoption of the Universal Declaration of Human Rights in the year 1948 as one of its most prominent markers, aspiring to an ethos and emotional coinage of equal dignity in freedom and solidarity, a shift that is as significant as the one twelve thousand years ago.

The most destructive scenario combines a short future time horizon and a context where the pie of resources is fixed or even decreasing, where a strong security dilemma reigns or is even willfully ignited, where individuals and groups are exposed to humiliating systems and treatments, and where they retaliate with counter-humiliation that deepens rifts rather than healing and preventing them. Particularly when the transition from unequal to equal worthiness is promised but betrayed, feelings of humiliation can become so strong that they fuel revenge in the name of honor and divide society so deeply that forward-looking co-creation of dignity becomes impossible.

The most constructive scenario is a global knowledge society that treats knowledge as an expandable pie everyone has free access to, while remaining mindful of the finitude of the pie of all ecological resources except solar energy. I work for a world where all people conceive of themselves as part of one single global in-group, as one-planet-one-humanity, where systems and practices of humiliation no longer have legitimacy, where we transcend the security dilemma by building global trust so that we can unite in solidarity in an atmosphere of respect for diversity in equal dignity. I work for a world where we draw appropriate lessons from long past time horizons for the sake of future time horizons that reach far beyond seven generations, so that we can protect and replenish the planet as humanity’s commons in the long term.

The Usefulness of the Four Logics Narrative for the Great Transition

Even though this is such a simplified model of the human condition, it offers an overarching metanarrative for a dignified course into the future in times of crisis. It offers the important warning that dynamics of humiliation become more significant in their destructiveness the more the other parameters veer to the benign side.⁴ It warns that even the most benign scenario is vulnerable to turning malign when feelings of humiliation are allowed to grow, because cycles of humiliation have the potency to malign all otherwise benign trends.

The four logics model also opens space for compassion for our challenged species *Homo sapiens* and can therefore relieve us from having to despair at ourselves or turn on each other in rage. Throughout the past millennia, many were proud of the human ability to compete for domination and control, and male identity became associated with valor in battle, predicated on the assumption that human nature is aggressive, with societies unaware that this strategy was suboptimal at best—never bringing lasting peace, only ceasefires—and that it will bring us all down in the end if we keep at it. We live in times of polycrisis, in times of *ecocide* and *sociocide*, risking *omnicide*, all of which could have been avoided if we had disallowed our dominators to continue with outdated short-term mindsets of competition for domination in the first place. The four logics model shows that only global trust building and cooperation can forge a dignified future, that courage and valor can no longer be sought in competition for domination between “villages” but in bringing the human capability for loving care to the fore in one single global village. As soon as dignity is defined as equal dignity for all in mutual solidarity rather than as the autonomy of lone heroes competing for domination and control, the concept of dignity can unify all religions of the world, all faiths, all life-giving ideologies.

For the first time, humanity has the power not just to extinguish all forms of life on the planet, but also to do the opposite and protect all forms of life. Never before have we been equipped to build the trust needed for solidarity at a global scale. We have all the resources required to reap the benefits that the global ingathering of humanity provides. We can draw on all experiences, past and present, from the oldest Indigenous wisdom to the newest scientific knowledge.⁵ In short, the co-creation of a decent global village is within the reach of our present possibilities.

Endnotes

1. Adapted from Evelin Gerda Lindner, "The Psychology of Humiliation: Somalia, Rwanda / Burundi, and Hitler's Germany," PhD diss., Department of Psychology, University of Oslo, Department of Psychology, Oslo, 2000, 437. This model has been developed further since 2000; see, among others, Evelin Gerda Lindner, *From Humiliation to Dignity: For a Future of Global Solidarity* (Lake Oswego, OR: World Dignity University Press, 2023).
2. See also William Ury, *Getting to Peace: Transforming Conflict at Home, at Work, and in the World* (New York: Viking, 1999).
3. Evelin Gerda Lindner, *Making Enemies: Humiliation and International Conflict*, ed. Chris Stout (Westport, CT, London: Praeger Security International, 2006), 45. See also Henri Tajfel and John C. Turner, "An Integrative Theory of Intergroup Conflict," in *The Social Psychology of Intergroup Relations*, eds. William G. Austin and Stephen Worchel (Monterey, CA: Brooks-Cole, 1979).
4. Lindner, *Making Enemies: Humiliation and International Conflict*, 45–48, and Lindner, *The Psychology of Humiliation: Somalia, Rwanda / Burundi, and Hitler's Germany*, 437.
5. For "harvesting" from all cultural traditions and achievements, see, among others, Evelin Gerda Lindner, "Avoiding Humiliation — from Intercultural Communication to Global Interhuman Communication," *Journal of Intercultural Communication*, SIETAR Japan 10 (2007), www.humiliationstudies.org/whoweare/evelin02.php.

About the Author



Evelin Lindner is the founding president of Human Dignity and Humiliation Studies, a global transdisciplinary fellowship, and co-founder of the World Dignity University Initiative. She has taught in numerous international settings and published widely. Her books include *Making Enemies: Humiliation and International Conflict*; *Gender, Humiliation, and Global Security*; *A Dignity Economy*; and *Honor, Humiliation, and Terror*. She holds an MD and a PhD in psychology from the University of Hamburg.



Old Myths, New Bottles

Lisa Sideris

A familiar, iconic image anchors David Christian's "new" vision of the world and human history: Earth as seen from space. The "whole Earth" image has been hailed as a milestone in human consciousness by everyone from patchouli-scented hippies to public crusaders for science and reason. This image is commonly read, as Christian reads it, as symbolizing global unity and planetary fragility. This "capacious" perspective will inspire motivation and hope for a better future, as humanity confronts unprecedented environmental challenges. A grand and collective challenge calls for a grand and collective story. Big History aims to provide it.

Christian's bedrock assumption is that any vision of ourselves, our history, and our planet that fails to take up the widest possible lens is "cracked," "splintered," "compartmentalized," "myopic," and "blinkerred." His turn to these and other negatively valenced terms suggests that some original wholeness has been sundered or radically constricted. Big History promises to recover this underlying unity, transforming humanity in the process.

In Western intellectual and religious history, the drive to locate unity in dizzying diversity has resurfaced again and again. The dream of oneness animated Platonic philosophy, Christian monotheism, Enlightenment positivism, and—closer to our time—grand syntheses in biology, to name a few watershed moments.¹ Unifying stories are also, often, origin stories. That the world presents to us a uniform structure suggests a unity in its first cause. God's oneness ratifies a belief that the coherence of all knowledge reflects God's creation and governance of lawlike nature. Thus, belief in an underlying unity, even when promoted as a secular project, puts us in the realm of something like religion. Big History is no exception.²

Christian is explicit about the mythic potential of this ostensibly secular story. He identifies parallels between the function of longstanding creation myths and Big History, noting that both offer authoritative and attractive origin stories. Both proffer a universal map that makes visible the deeper connections between the personal and the universal. Today, however, those inherited myths have lost their power and credibility. Big History responds to a psychic and spiritual longing left in religion's wake, by restoring continuity and harmony between microcosmic and macrocosmic scales. For its narrative to function as more than a lifeless chronology, a concatenation of random events, it must somehow gesture toward an eventual closure or completion. A telos of sorts. This familiar gesture typically involves a moralizing turn toward the future, the outcome of which depends upon collective human action.

That critical, pivotal moment is here: evolution has led us to the point where directing the future course of the planet is now a live option. Humans have evolved a shared, collective, networked brain, a development Christian hails (with other thinkers, both secular and religious) as the noosphere, or planetary mind.³ *Homo sapiens'* unique capacities for collective learning distinguish us from other lifeforms. We alone are positioned to write the next chapter of the grand epic, providing a powerful check on current dire trends.

Christian believes that Big History provides something that the narrow lens of conventional education routinely misses: a diagnosis of how we got to the perilous moment known as the Anthropocene. On this diagnosis, humans, unlike other creatures, do not merely fill evolutionary niches; they mobilize their knowledge and creativity to expand into new niches. With this expansion, human impacts on nature proliferated, as creative technologies and novel social arrangements enabled us to manipulate life and transform virtually every inch of the planet. Thus did we become Earth's dominant and most powerful species. This story expresses the kind of "dynamic, interconnected knowledge that a younger generation will need as it faces the daunting challenge of maintaining a livable planet," Christian argues.

Looking toward the future, Christian suggests that humanity's "unmatched creativity" will continue, as it always has, to turn up novel solutions to unprecedented crises. But how does this story of humans' rise to dominance point the way *out* of a crisis whose origins seem to lie in humans' propensity for domination and control? Christian invokes the image of the chrysalis—a

symbol of radical transformation—to express a new world emerging from the old. With Big History as our guiding myth, a new human creature will be born.

Yet, as a narrative of continuity that extrapolates from our evolutionary past to plot the course of our planetary future, Big History provides no clear basis, no mechanism, for the radical metamorphosis it foretells. Radical change is treated as a simple matter of knowledge accumulation—an intellectual, rather than moral, conversion. Christian emphasizes novelty in thinking, at the expense of genuine moral reflection. Thus, the storyline suggests, paradoxically, that doubling down on the very same traits that created our global environmental predicament—a species-wide penchant for innovation, collective learning, and manipulation and control of our environments—will inaugurate sweeping change. Knowledge will become wisdom. Yet, the anticipated pivot from an old world to a new one, our conversion from often destructive domination to wise maintenance of a “livable” planet, is simply assumed rather than explained.

Christian believes that Big History, symbolized by the whole Earth image, will “shock us” into a new consciousness. But we have been gazing on this image for over half a century. The image that once astonished astronauts is now ubiquitous—and shopworn. Eagerly appropriated by greenwashing global corporations and billionaire technocrats in the thrall of interplanetary colonialism, the whole Earth image has lost its power to gobsmack us into anything new, different, or better.⁴

Might the same be said of Big History? Despite its purported novelty, Big History often reads as a mash-up of plot devices and discursive habits inhering in the ancient religious narratives it treats as defunct. Humans, it suggests, can redeem themselves from alienating conditions of fragmented knowledge and blinkered perception—call it sin?—through retrieval of an original, underlying wholeness. Humans will emerge, godlike, as a providential planetary force, the Anthropos of the Anthropocene. *Homo sapiens*, humans made truly wise, will emerge at last to complete the cosmic arc.

We have heard these stories before. Indeed, Big History is a close cousin of “Universe Story” and “Epic of Evolution” narratives offering similarly panoramic but unified and integrated stories of human, planetary, and cosmic history.⁵ In both their old and “new” forms, these storylines remain

indebted to a recognizable template that was created and handed down to us from secular and religious thinkers from another place and time. Contrary to promises of human agency fulfilled and realized in the Anthropocene, these myths of human-directed planetary evolution appear to be directing and ruling over us. To remain embedded in these recurring narrative structures, wittingly or otherwise, is to acquiesce in the face of their all-too-conventional “cosmological temptations,” the belief that the response to every new global crisis requires a new ethical or religious framework.⁶ The danger in doing so is that we continue to learn nothing new at all.

Endnotes

1. Vassiliki Betty Smocovitis, *Unifying Biology: The Evolutionary Synthesis and Evolutionary Biology* (Princeton, NJ: Princeton University Press, 1996).
2. Ian Hesketh, “What Big History Misses,” *Aeon*, December 16, 2021, <https://aeon.co/essays/we-should-be-wary-about-what-big-history-overlooks-in-its-myth>.
3. David Christian, “What Scientific Term or Concept Ought to Be More Widely Known?,” *Edge*, January 1, 2017, <https://www.edge.org/response-detail/27068>; Clément Vidal “What is the Noosphere?,” *Human Energy*, accessed March 30, 2023, <https://humanenergy.io/projects/what-is-the-noosphere/>.
4. Mary-Jane Rubenstein, “A Tale of Two Utopias: Musk and Bezos in Outer Space,” *Metapolis*, March 2022, <https://metapolis.net/project/a-tale-of-two-utopias-musk-and-bezos-in-outer-space>, quoted from *Astrotopia: The Dangerous Religion of the Corporate Space Race* (Chicago: University of Chicago Press, 2022).
5. Lisa Sideris, *Consecrating Science Wonder, Knowledge, and the Natural World* (Berkeley, CA: University of California Press, 2017).
6. The phrase is Willis Jenkins’s: “It is almost conventional wisdom that unprecedented challenges require religious and ethical thinkers to narrate a new story or retrieve a forgotten moral vision in order to reorient humanity’s moral consciousness ...” from *The Future of Ethics: Sustainability, Social Justice, and Religious Creativity* (Washington D.C.: Georgetown University Press, 2013), 4.

About the Author



Lisa Sideris is a professor in the Environmental Studies Program at the University of California, Santa Barbara. Her research focuses on the ethical significance of natural processes and how “environmental” values are captured or occluded by perspectives from religion and the sciences. Her books include *Environmental Ethics*, *Ecological Theology*, and *Natural Selection*, *Consecrating Science: Wonder, Knowledge, and the Natural World*, and the edited collection *Rachel Carson: Legacy and Challenge*. She holds a PhD in religious studies from Indiana University.



Beyond Grand Narratives

Vandana Singh

I am a physicist, a transdisciplinary scholar of climate change science and pedagogy, and a writer of speculative fiction, including science fiction. I am from India, although I live and teach near Boston in the US. The comments below are simply an interested non-expert's reaction to the subject of Big History.

1. I have had many conversations with Frank White, the space philosopher who came up with the overview effect and the transformative experience that a view of Earth from space had on astronauts. Initially, it seemed reasonable to me that such a view would fundamentally change the perspective of *any* human who had the privilege of experiencing it. However, a sociologist friend pointed out that universalizing this experience beyond astronauts was likely problematic, since people who command power generally like high vantage points from which to view their domains (hence "lord of all I survey"). Therefore, to assume that any human, including, for example, techno-billionaires and others addicted to power, would have the same humbling, soul-expanding, life-changing reaction is probably unrealistic. I am also not aware whether any astronauts who have seen Earth from space have *permanently* changed their lives and lifestyles as a result of the Overview experience.

2. I see in some of the discussion of Big History a problematic tendency to universalize the experiences of the privileged in the West. Let me clarify. As a physicist, I am thrilled by the knowledge that, in a literal sense, we come from the stars. Whenever I teach about the origins of the elements other than hydrogen in our bodies, and how our solar system came to be, my students and I share a moment of awe and wonder. But I cannot assume that this story would have much meaning for, say, a marginalized community in India. Maybe it would, and maybe it wouldn't, but it is not right for me to assume this to be the case. For example, I am familiar with

a community located in Jharkhand, one of the poorest and most climate-vulnerable states in India. The women of that village have, after much struggle and privation, managed to restore their degraded forest. From my brief conversations with them, I have a sense of a worldview that is very different from that of modern industrial civilization: it is ontologically relational and reciprocal within and beyond humans. From what little I know about it, I can't see anything from the Big History perspective that could teach them to live sustainably on this planet—they already do. Perhaps it would offer them other things? For that, one would have to go there and ask them what they think.

3. It seems to me to be a mistake to focus *only* on the large-scale grand narrative, if indeed that is what Big Historians are implying. Such Grand Narratives that wash out the local, lived experiences of diverse cultures have been used as excuses for imposing material, cultural, and epistemological systems on peoples. They therefore tend to be Grand Narratives of the powerful. If Big History wants to be taken seriously, it had better pay attention to power. Historians, of all people, should know that dominant narratives tend to be written by the powerful. I don't see much acknowledgment of colonialism and power hierarchies in my limited exposure to discussions by Big Historians. In the one Big History conference I attended, I was appalled to see that two physicists had proposed a numerical scale on which to judge successful civilizations, with—naturally—Eurocentric modern civilization at the apex. They seemed not to be aware that this civilization is about to destroy itself and the biosphere. (To do the conference justice, there was also good representation of diverse perspectives from around the world, but I have no idea if this is unusual for a Big History conference or not). An admission that we live in a *colonial* modern world might be a good starting point for a re-examination of Big History.¹

4. Our current social-environmental crises are global in extent, but they manifest differently, and are received differently, in different locales and climes. Unfortunately, much of mainstream discourse (on climate change, for example) tends to be top-down, bureaucratic, and technocentric, and assumes that various neoliberal illogics are by default true and universal. It has, therefore, become increasingly important to foreground the local, and the lived experiences of communities in different places around the world, which is (I hope) leading to an epistemological broadening in climate science.² In the Big History conversations I have witnessed, I see a tendency (among some at least) to disregard the small-scale and local for

the grand vistas. I am puzzled. Why one or the other? Here is an insight from my own field of particle physics: we know about our cosmological origins partly as a result of understanding what happens inside the cores of stars at the unimaginably small scale of protons and neutrons. Nature demonstrates cross-scale connectivity. If we only focus on the local and particular, we are in danger of living in ghettos that are mutually unintelligible and don't talk to each other, which we cannot afford in an age of climate change and global catastrophe. If our sole focus is on the universal, we are in danger of colonialist erasure of alternative ways of knowing and being. Plus, if part of the purpose of Big History is to help us feel responsibility for the planet, how can that possibly happen without a sense of direct experience of the rest of Nature, in place and locale? Some of the most deeply environmentally conscious people on Earth have become so through bodily immersion in Nature in a *particular* context. I am therefore puzzled as to why we must privilege the large-scale.

5. I would love to see a history develop that tells stories of the human and the nonhuman together, including stories of other species and “inanimate” matter. As a physicist, I know that matter is active in the universe, and we co-construct our diverse realities with matter in different ways.³ But the way I see it, such a history should develop from a place of humility and an acknowledgment of the colonality of power and knowledge. I suspect this means that we have to start from place, from the local scale, and then reach out. Perhaps people who wish to develop such a history might consider visiting Indigenous and other marginalized peoples in the world, and listening to what they have to say about things. (We could learn, for example, from Navajo cosmology about what it means to belong to the universe). For the world to become a biodiverse and culturally diverse tapestry that also is networked at a planetary scale—that is, a pluriverse—the weaving of the threads that connect across scale should surely be done with the active participation and permission of those who have been at the receiving end of Eurocentric domination. Why can't the story of our cosmological origins be one of the many stories to tell, important in some contexts, but not necessarily in others?

6. Practically speaking, if part of the purpose of Big History is to help us become better inhabitants of Planet Earth—in other words, if the intent is for it to inform educational policy for change—I wonder if immersive, transdisciplinary, experiential Nature education might be a more effective alternative, at least for this purpose.

7. As a side note, I just want to mention that good science fiction exists on the subject of the climate crisis—in fact, a vast literature is developing in this area. Speculative fiction at its most transgressive can help decenter us from dominant paradigms of our present and future—but that is a subject for another day.

Endnotes

1. See Gurminder Bhambra and Peter Newell, “More than a Metaphor: Climate Colonialism in Perspective,” *Global Social Challenges Journal* 20 (2022): 1–9, <https://bristoluniversitypressdigital.com/gsc/view/journals/gscj/aop/article-10.1332-EIEM6688/article-10.1332-EIEM6688.xml>.
2. See, for example, Regina Rodrigues and Theodore Shepherd, “Small is Beautiful: Climate Change Science as if People Mattered,” *PNAS Nexus* 1, no. 1 (2022): 1–9, <https://academic.oup.com/pnasnexus/article/1/1/pgac009/6540642>.
3. See Karen Barad, *Meeting the Universe Halfway* (Durham, NC: Duke University Press, 2006).

About the Author



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Whither Agency?

Angus Taylor

As I understand, Big History aims to produce a grand unifying narrative in which humans have a meaningful role—replacing, or at least supplementing, the fragmented, specialized understanding of much traditional historical inquiry, and dwarfing in timescale world-history textbooks that have existed in the United States since the 1940s. David Christian’s *Maps of Time* displays an impressive knowledge of the sweep of human history and our place in the universe.

Big History is not something entirely new under the sun. Grand theories of history were prominent in the nineteenth and twentieth centuries (e.g., G. W. F. Hegel, Oswald Spengler, Arnold Toynbee). Some philosophers (e.g., Herbert Spencer, C. Lloyd Morgan, Jan Smuts) explicitly embedded human history in the larger course of the natural world, with evolution producing ever more complex systems. But are such theories too big—pitched at too high a level of generalization—to say much to us in our present circumstances?

To attempt to find meaning by situating ourselves in nature does not overstep the bounds of science. Mary Midgley has argued that “[p]urpose-centred thinking is woven into all our serious attempts to understand anything, and above all into those of science.”¹ Such “teleological” thinking has to do with understanding what function something serves in a larger whole. The refusal to acknowledge that we are joined with non-human entities in something greater than ourselves, she maintains, promotes an attitude of contempt for, and the urge to dominate, what is perceived as other. To the extent that Big History teaches that we are integral to the processes of nature, it could help reinforce the message expounded so passionately a century and a half ago by William Morris that human well-being cannot be divorced from the well-being of the natural environment.²

Promises and Perils of the Big View: Diamat and GST

The twentieth century's two most theoretically developed evolutionary philosophies integrating human societies into the natural world are *dialectical materialism* ("Diamat") and *general systems theory* (GST), which I have elsewhere compared and evaluated in some detail.³ The former grew out of Friedrich Engels's interest in natural science, and is not to be conflated with Karl Marx's "historical materialism."

Despite significant differences, Diamat and GST share certain key features. Prominent among these is the concept of nature's exhibiting a hierarchy of systems processing energy and evolving according to laws of nature. Despite its nominal materialism, Diamat shares with GST the attempt to explain the nature and behavior of things according to the way they are organized. Both philosophies see the historical evolution of systems as involving an ongoing increase in *organizational complexity* and *information content*.

GST emphasizes the integration of systems into ever larger wholes. Especially important for Diamat is the concept of emergence: each higher level displays new qualities and its own irreducible laws. GST sees the evolutionary process as essentially gradual, while for Diamat gradual changes eventually lead to revolutionary changes and the emergence of new types of systems.

Some scholars have doubted that dialectical materialism is compatible with Marx's theory of history. Marx's theory does situate human history firmly within nature—Marx's crucial insight being that all societies integrate and sustain themselves on the basis of their essential "metabolism" with their environments. And so, on this theory, a society's particular mode of production—its set of technological powers and the economic structure used to harness those powers—is key to understanding its form and development. But any laws or principles general enough to encompass all natural systems, human societies included, are not fine-grained enough to take into account the specific properties of social systems and the role of human agency.

Philosophies of nature are almost bound to emphasize the structural regularities of nature and the way they impose themselves on human life, rather than the human capacity to alter the

conditions of life. This is what occurred in the Soviet Union, where dialectical materialism became ideology: a rationalization for the existing social order and the legitimacy of its ruling elite.

What must not be erased from the historical narrative are the struggles of people to change their lives. With his belief in the power of human agency, Karl Popper rejected what he called “historicism”—the idea that there is a predictable course to human history—and named Marx as a prime culprit. But Popper was mistakenly conflating Marx’s general theory of all types of societies, which recognizes the importance of agency, with his much more restricted structural model of the capitalist economy, in which Marx did discern powerful imperatives of development.

Focusing on the Task at Hand

To deal with the current perfect storm of overlapping crises engulfing the world, we must do more than just survey the grand sweep of cosmic and human history. Certainly we need the concepts of systems theorists: open systems, energy flows, positive and negative feedback, homeostasis, emergent properties, resilience, tipping points. But more than that, we need to understand the specific dynamics of social systems: the relationships among technology and economy and political institutions, and the role played by worldviews in shaping and entrenching social systems—those things addressed, with greater or lesser success, in Marx’s general theory.

And then with our lens we must zoom not out, but further in, to confront industrial capitalism as a self-expanding system marked by the radically inequitable distribution of wealth and power, and increasingly by ecosystem destruction. The structural imperatives that make capitalism so dynamic and productive also make breaking their grip in order to restructure society particularly difficult. State socialism failed in large measure because it proved to be a less efficient form of industrialism, as well as more vulnerable to political disruption in time of stress.

It has been said that it is easier to imagine the end of the world than the end of capitalism. Discovering whether capitalism must be entirely transcended or “only” drastically reformed is part of the task ahead, along with promoting values appropriate for a new civilization and mobilizing effective political action.

In his 1930 book *Last and First Men*, philosopher and science fiction author Olaf Stapledon envisioned the entire history of humanity, covering two billion years. Then, in his 1937 *Star Maker*, those two billion years became just a blip as Stapledon pulled his lens back to tell the history of life in our whole galaxy, and then in our whole universe, and beyond that in all universes (the multiverse)—endless cosmoses with endlessly varied laws of nature. Now that's Big History. But for us, the story we must now tell is ultimately not about the Big Bang and energy flows and complexity; it is a story about learning to live flourishing lives, together with all our fellow sentient inhabitants of this small planet.

Endnotes

1. Mary Midgley, *Science As Salvation: A Modern Myth and Its Meaning* (London: Routledge, 1992), 9.
2. Angus Taylor, "Inhaling All the Forces of Nature: William Morris's Socialist Biophilia," *The Trumpeter* 14 (1997): 207–09, <https://bestfutures.org/wp-content/uploads/2023/01/Inhaling-All-the-Forces-of-Nature.pdf>.
3. Angus Taylor, "The Nature of History: Dialectical Materialism and General Systems Theory," <https://bestfutures.org/wp-content/uploads/2023/03/The-Nature-of-History-2023-03-04.pdf>.

About the Author



Angus Taylor taught philosophy for many years at the University of Victoria in British Columbia. He is the author of *Animals and Ethics: An Overview of the Philosophical Debate*. He helps run the website BEST Futures, which works to support the emergence of a sustainable and just world through providing people and communities with new tools, perspectives, and knowledge.



Author's Response



Response to Comments

David Christian

I thank contributors to this discussion for their wide-ranging, diverse, and often illuminating comments on the proposition that something like Big History may have an important role to play in the Great Transition. While some commentators did indeed see a role for the sort of thinking that Big History represents, others were clearly skeptical of the Big History approach and, more generally, of the modern body of scientific thought in which it is embedded. However, I believe all discussants accepted the core idea that new perspectives and new ways of thinking will be needed during the colossal changes of coming decades. I hope this discussion can contribute in a small way to the construction of these new ways of seeing the world.

Here, I will respond only to some of the main lines in the discussion.

My original essay tried to sketch what I think will be key features of new ways of thinking that can guide and inspire the global task of building a more sustainable future world. Above all, I argued that we will need more thinking at global scales, simply because the problems we face are now global. In education, research, and public debate, we will need more wide-ranging perspectives that can integrate different disciplinary and cultural perspectives, ranging from the personal to the planetary and beyond. I see Big History as an attempt to construct and disseminate such perspectives.

I accept many of the critical comments. Big History is, after all, a work in progress. However, I must admit to being dismayed by comments that oversimplify and sometimes caricature what is already a rich and diverse body of scholarship. I sometimes fear that the label “Big History” may invite such caricatures. Because it focuses largely on very “big” processes that are often

downplayed, particularly in the humanities disciplines, it may seem that Big History overlooks or ignores detail, nuance, and agency. But no good scholarship can afford to do that, and, as one of the commentators has pointed out, the real goal must be to encourage the use of many different lenses—a sort of zooming in and out—as we desperately try to get on top of the many dilemmas that face us today. In any case, my argument was not primarily about Big History, but rather about the sort of thinking it represents—thinking that can range across multiple scales and perspectives and integrate the insights of many different scholarly disciplines.

Criticism of existing ways of thinking will of course be vital as we try to build new perspectives. I offered my own criticisms of many aspects of contemporary thought and debate, and the discussion offered many more. But I think that, even as we look for new ways of thinking, we must be wary of simple dichotomies between modern scientific thought and traditional perspectives on the world because they cannot do justice to the extraordinary range and subtlety of human thought both today and in the past. The thought traditions of the past do indeed have much to offer us today, and it is true that those working mainly within modern scientific traditions have often overlooked those insights. But it is also true that the millions of people who work within the rich, diverse, and unfinished body of thought we describe as “modern science” (in which Big History is embedded) are not all as ignorant of dialectical contradictions or power relations, or as immodest or insensitive to the insights of traditional religious, philosophical, and, yes, “scientific” thought as some contributors claim.

In any case, eventually we must move beyond critique and look for the shared perspectives that may provide a foundation for global collaboration during the Great Transition. What common ground can there be in a world of such staggering diversity in thought, in cultural traditions, in lifeways, in power relations? That is really the problem that concerns me: what is to be done? Can we find enough common ground to allow for real and effective global collaboration during the Great Transition? We do not need to agree on everything (that would indeed be terrifying), but we will need more agreement and collaboration than we find today. I offered the emergence of nationalism as an example of perspectives that allowed for common commitments to shared goals without necessarily flattening cultural and social diversity. How can we best contribute to the building and dissemination of similar perspectives but at global scales?

One thing of which we can be sure is that these perspectives will be new, because so many of the problems we face are unprecedented. And that means that modern science, the best of science, will play a crucial role during the Great Transition. Yet many of the challenges, particularly those turning on our ability to cooperate on common goals, are as old as humanity. And that is why ancient thought traditions will also have much to offer as we look for some global consensus on the tasks and challenges that will face all humans in coming decades. Ethical guidance will be as important as good science because science does not act; humans act, and humans act with purposes guided and inspired by visions of a good future.